THE
SCHOOL JOURNAL
ORGAN OF THE DEPARTMENT OF PUBLIC INSTRUCTION AND OF THE STATE TEACHERS' ASSOCIATION.

Vol. 52. JUNE, 1904. No. 12.

EDUCATIONAL EXHIBIT AT ST. LOUIS WORLD'S FAIR.

GREAT BUILDING AT LOUISIANA PURCHASE EXPOSITION.

FOR the first time Education is given the leading place at such an exposition. Five acres of floor space are here devoted to exhibits from the states and countries of the world, with practical demonstrations of educational work in many lines. The following article is from Howard J. Rogers, Chief of the Department of Education at the St. Louis World's Fair:

To justify the preparation of an educational exhibit, where neither the incentive for gain nor the brilliance of the exhibit enters largely into the problem, its value to the public and the state must be demonstrated. The questions we most often hear are: What can you exhibit in education, and what is the value of an educational exhibit? Concerning the latter point, the only way to judge the future is by the past. Without attempting in this brief article to trace the conditions which rendered possible the result, we may cite the following more prominent examples: The Crystal Palace Exhibition in London in 1851, which led to the establishment of the School for Industrial Art at the South Kensington Museum; the educational exhibit at the Centennial Exposition of 1876, which led to the introduction of manual training in the public schools of this country, the introduction of shop work as a part of the curriculum in technical schools, and the beginning of the training which has rendered possible the rapid advance of this country in arts and crafts; the reorganization of primary education in France as a result of the educational exhibit at the Paris Exposition of 1878; the rapid growth of manual training and industrial art instruction as a result of the impetus given by the Chicago Exposition of 1893; the action of the French government in arranging to send students annually to this country for the study and investigation of our industrial and commercial methods as a result of the United States educational exhibit at the Paris Exposition of 1900.

Briefly, the value of an educational exhibit lies in the opportunity for comparison. Methods of administration, methods of teaching, equipment of schools and colleges, course of study, with the demonstration of the theory which underlies their construction and the results which attend their enforcement, are brought side by side from every quarter of the globe for the investigation of the student. It is not to be expected that every great Exposition will mark a decided change in educational methods, even in one department, but the sum total of suggestive material taken from an Exposition to every state and country in the world, and directly reflected upon the growth and development of that country, is beyond calculation.

The preparation of an educational ex-

hibit should be made for the sole purpose of appealing to the scientist. The information which the educational expert needs, and which he comes to the Exposition to find, must be afforded. Experience has proven that the exhibit which meets the scientific test and criticism most strongly appeals to the general public. In precisely the same way that it is fatal for a speaker to under-estimate the intelligence of his audience, it is fatal in an educational exhibit to attempt to popularize with the intention of attracting the crowd.

The exhibit of a city or state, or a university, should have as its central object the demonstration of the value of its course of study. The latter contains the best thought and experience evolved from the trials and experiments of generations. It marks the differentiation of school systems and universities, and should be made the chain to which every item of an educational exhibit should be attached for illustrative purposes. The machinery of an educational exhibit is necessarily limited, and must consist in general of charts, photographs, printed matter, maps, models, apparatus and specimens. These heads are general, and perhaps the three most important are charts, photographs and printed matter. Thousands of dollars can be expended to good advantage in the masterly grouping of facts and their graphic presentation to the public eye. An examination of the census reports of the United States is almost unmeaning to the average intelligence without the comparative charts accompanying them. The use of instantaneous photography has rendered it possible to present a series of actual pictures of school life and methods, which is only a little less satisfactory to the student than actually witnessing the operations. The entire work of a class in a chemical laboratory, for example, may in a dozen photographs be accurately and completely told. The school accommodation of a city can be set forth in a series of photographs with great accuracy. One exhibit differs from another in the skill with which these photographs are combined and made to tell the story. A printed series of monographs on the most important phases of a school system or of the work of the department of a university are almost indispensable, as a corollary to the exhibit. The thing for which the United States exhibit at Paris, in 1900, will be longest remembered was the series of monographs covering every phase of education, from the kindergarten to the university, prepared by experts in the various topics. The exhibits illustrated the monographs, and the monographs explained the exhibit and established the scientific unity of the whole.

One of the great innovations in the exhibit features of the St. Louis Exposition has been the endeavor to make an exhibit of processes. So far as possible, this has been introduced into the educational department. Laboratories in operation, domestic science and manual training schools where pupils are at work, and the actual instruction of the deaf, dumb and blind are made special features. Further than this, the "live exhibit" can not successfully be carried. The "spirit" of the schoolroom, which is one of the most essential features in mind-training, is thoroughly put to flight in an Exposition atmosphere. The only topics which are capable of demonstration by pupils, are those which demand the constant use of hand and eye, as well as brain.

In the Paris Exposition of 1900, education was made the first group of the classification, in accordance with the theory advanced by Commissioner General Picard, that education was the source of all progress. The St. Louis Exposition has followed this precedent, but has gone a step further and made education the keynote of the entire exhibit classification. The attitude of the Exposition authorities towards the Department of Education has from the beginning been one of sympathy and liberality. It is the first Exposition ever held in which a separate building has been assigned to education. Even in Paris, where the sympathy for letters is much higher than in this country, and where the status of the student and the scientist ranks above any other class of society, most of the educational exhibits were placed in the gallery of the Liberal Arts Building. The Palace of Education at St. Louis is in the very center of the Exposition activites, bordering upon the 600-foot avenue leading to Art Hill, and upon the main transverse avenue. It covers 210,000 square feet of ground, approximating five acres, and is designed in modern classic style. It cost $350,000. Its purely classic lines render it, in the opinion of experts, the most beautiful building in the "exposition picture." There

are available for educational exhibits 156,670 square feet of space, net, of which 43 per cent. is devoted to foreign educational exhibits. There are no galleries in the building.

The object of the educational exhibit is twofold; first, to secure a comparative exhibit from all countries of the world noted for educational effort; second, to present a thoroughly systematic exhibit of all phases of education in the United States. Both of these objects seem assured. The following foreign nations have prepared exhibits in accordance with this plan: England, France, Germany, Russia, Sweden, Belgium, Austria, Italy, Japan, China, Ceylon, Mexico, Cuba, Brazil, Argentina and Chile. We think the exhibits will be of immense interest to the American educational and general public. The classification adapted by the Exposition authorities is as follows:

Group 1. Elementary Education.
Group 2. Secondary Education.
Group 3. Higher Education.
Group 4. Special Education in Fine Arts.
Group 5. Special Education in Agriculture.
Group 6. Special Education in Commerce and Industry.
Group 7. Education of Defectives.
Group 8. Special Forms of Education —Text Books, School Furniture, School Appliances.

Of the space devoted to domestic education, 47 per cent. has been assigned to states and cities for the public school systems, 22 per cent. to Higher Education, 13 per cent. to Technical and Agricultural Education, 4 per cent. to Art Education, 6 per cent. to Education of Defectives, and 8 per cent. to miscellaneous educational agencies and to commercial firms. Thirty of the States of the Union —Pennsylvania being one of them, under the direction of Supt. Addison L. Jones as State Director — have been allotted space. Every section of the country is represented by these States, and in every State a generous portion of the legislative appropriation for participation in the Exposition has been assigned for its educational interests. Five cities of the country, New York, Chicago, St. Louis, Cleveland and Indianapolis, make independent exhibits, showing the perfection to which municipal school systems are brought. The first three mentioned illustrate the highly complex system of a large city, and the latter two are typical of the smaller cities.

One of the most interesting exhibits is that of the Agricultural and Mechanical Colleges and Experiment Stations of the United States, which has been prepared under the special appropriation of $100,000 made therefor by Congress at its last session. There are many working laboratories in this exhibit.

In the university section of the exhibit, which occupies one of the quadrants of the court, as opposed to the other three quadrants occupied by foreign exhibits, are grouped the more prominent universities of the country. Among these are Harvard, Yale, Columbia, Cornell, Johns Hopkins, Virginia, Chicago, Illinois, Michigan, Wisconsin, Missouri, Washington and St. Louis. Nearly all of these exhibits are departmental in character, although some emphasize particularly the work of one or two departments. The work of the polytechnic schools of the country is presented by the Massachusetts Institute of Technology, Troy Polytechnic Institute, Purdue University, Pratt Institute, Worcester Polytechnic Institute and others. In the department of Higher Education of Women, the participants are Vassar, Wellesley, Bryn Mawr, Smith and Mount Holyoke. A special feature at the St. Louis Exposition is the art school exhibit, in which space has been granted the leading art schools of the country, such as the St. Louis School of Fine Arts, Art Institute of Chicago, Art Students' League, New York, Pennsylvania Museum of Fine Arts, Museum School of Fine Arts, Boston, and Boston Normal Art School.

Reference has already been made to the exhibit of the actual work of schools for the deaf, the dumb, and the blind, which is maintained by the Convention of American Instructors of the Deaf, and the American Association of Instructors of the Blind. Another feature of the educational exhibit is a lecture hall, with a seating capacity for 250 people, fitted out for stereopticon and lantern lectures, in which during the Exposition special lectures and talks will be given by educational experts from all parts of the world. The tentative allotment of space was made in the Department of Education on September 1, 1903, in order that schools and colleges might have at their disposal the entire scholastic year up to

the opening of the Exposition for the preparation and installation of their exhibits.

The twentieth century will be noted for the struggle between nations for commercial and industrial supremacy. At times an appeal to arms will be made, because of a clash of interests, but the nations who will win, and who will control the trade of the world will be those who train their future citizens from the standpoint of efficiency. The test which will establish the higher efficiency will be that of success; and the nation whose system of education gives to its citizens breadth of observation, power of adaptation to emergencies, and the ability to do things, will stand pre-eminent in the educational and commercial world. The importance of this question and the keenness with which it is appreciated gives the key to the interest felt by all nations in the educational exhibit at the St. Louis Exposition and the meaning of the value of a close comparative study of the systems exhibited. The influence which the Department of Education may exert upon this leading problem of the scientific and commercial world is the warrant for the expenditure here made.

HOPING FOR THE BEST.

LA BRUYERE has a hard saying to the effect that only three great events are common to all mankind: birth, life, and death. Men are, he remarks, insensible to their birth, they suffer when they die, and they "neglect to live." This witticism has the bite of truth which must be apparent to many persons when they see how large a number of their friends and acquaintances banish joy and mirth and content by worrying, often about trivial things. It is a truism that worry does no good, but that does not cure the habit. The disposition to look on the favorable side of things rather than on the unfavorable, is worth, as Hume, the Scottish philosopher, says, more than $50,000 a year; it often makes all the difference between a happy and a miserable life, between failure and success; a career in which the powers have been fully developed and a blasted existence.

There are at least two classes who look habitually on the dark side of things. Some people, unfortunately, come to think early that life is all a cheat. They are like Hamlet, who declares: "This goodly frame, the earth, seems to me a sterile promontory: this most excellent canopy, the air, look you, this brave o'erhanging firmament, this majestical roof fretted with golden fire, why, it appears no other thing to me than a foul and pestilent congregation of vapors."

Consider the lot of those who have no hope, no interest in life, who admire nothing, love nothing, have no "illusions"—they in the false wisdom of their own conceit are the most deceived of all mankind. Hope must be cherished in order to keep life sweet. The accounts of the early missionaries, explorers and adventurous spirits the world over detail many incidents which leave a lasting impression on the careful reader. The provisions give out, the path through the almost pathless wilds is lost, perhaps. The travelers press on, half starved, worn in mind and body. Rescue and safety seem to be attainable only by a miracle; the spirits of the party desert them; human nature can stand no more. Then a sign tells them that help or refuge is near, and suddenly, as if by magic, the power of hope exerts itself on the human mind, and the bodies, which were actually worn out and incapable of further exertion when they were despondent, start out again with renewed vigor, undergo untold hardships again, and reach the goal.

Is not the comparative success of two persons readily predictable when one of them starts in life or on an enterprise without hope, and one is inspired with confidence and enthusiasm? Without hope there would be no endeavor, no progress; and the cynical and the pessimistic, who look habitually at the black aspects of all things, and flatter themselves that they have obtained wisdom, labor under a heavy handicap.

People who have nothing but ennui to combat do not compel sympathy, but there are troubles which will come to everybody in life; they can no more be avoided than fate. Sufficient causes of worry will exist, and the problem is not how to dodge them, but how to meet them and cast them off. The fact is now being recognized that the mind has a mighty influence not only over the character, but even upon the bodily health. And on the relation of self-control to worry, John W. Churchman, in a recent number of the *Atlantic Monthly*, gives some sound advice:

"If the children of to-day, who are to-morrow's men, be taught to overcome that sort of selfishness which centres attention on one's sensations, future health will have been promoted by the relegation to history of that class who enter the large army of the neurasthenics and worry themselves into their graves. For the striking fact is that people of high intelligence actually offer a stronger front to disease, other things being equal, than their weaker brethren. With a properly schooled mind the man of an average constitution, decently cared for, may actually avoid that great class of diseases which are certainly furthered, if not started by an improper mental attitude. High-minded and intelligent indifference to small but annoying ailments, beyond cavil, increases effectiveness and makes for health."

There is no doubt that the resolute casting aside of worry makes for the peace of mind, and the rule is to "resolve and keep your resolution," with the result that each triumph will make the succeeding conquests easier.—*Ledger.*

ADVISABLE OMISSIONS.*

OMISSIONS FROM ELEMENTARY CURRICULUM, AND BASIS FOR THEM.

BY PROF. F. M. MCMURRY.

THERE is a remarkable increase in the amount of subject-matter in the common school curriculum of the present compared with that of one generation ago. A quarter of a century back the common studies were the three R's, plus spelling, geography, some history, some physiology and hygiene, and possibly some music and drawing. To these have been added hand work, including either manual training, domestic science, domestic art, or all three; nature study, literature in the primary as a subject separate from beginning reading; and physical exercises. Hence there are several more studies now than a generation ago.

The topics included under the various studies have also increased. For instance, while history was formerly confined to the eighth grade, or to the seventh and eighth, it now frequently includes pioneer life and industrial history, and extends through the higher four or five grades. Home geography has been added to the former geography, and the whole subject now extends frequently from the third or fourth grade through the seventh or eighth, while formerly it began with the fifth year of school. Music and fine arts are also much more prominent than formerly, extending over a greater number of years.

Finally, the amount of detail considered under the individual topics has also greatly increased. One generation ago we were reasonably content with mere outlines, or at least with brief presentations of subjects. Now the principles of interest and apperception require enough detail to produce vivid and interesting pictures, so that our books are now thicker than formerly, and oral instruction—which allows much "filling in"—is more popular. The increase of subject-matter from this cause is possibly even greater than that due to either of the other two causes.

It is evident, therefore, that we now have more studies than formerly, more topics under many of them, and more detail under the topics. These additions altogether, probably double, and possibly treble, the work required a generation ago. If we assume that children at that time did all the work that they well could, and that general conditions have remained the same, children are now submerged with school work. But the full truth of that assumption is to be doubted. For example, beginning reading receives about half the time devoted to it twenty years ago, oral work in literature often receiving the other half. But children now learn to read more rapidly, beyond question, than formerly, reading from two to five times as much matter during the first three school years. In other words, we may assume that improved methods have led to the accomplishment of more work in a given time in education, as in manufacturing.

Nevertheless, it is too evident that the common school curriculum is seriously overcrowded, to need discussion. Many educators are extremely emotional in their complaints on this account, and suggest that from one-quarter to one-half of the present material be dropped.

But the reasons for the overcrowding are not so apparent. Secondary teachers

* Paper read by Dr. F. M. McMurry, of Columbia University, New York, at the Atlanta meeting Department of Superintendence of National Educational Association, February, 1904.

think that they might speedily find a remedy for their state of surfeit, if they could devise some means of escape from the pressure from the college. But are they sure that they are right? The common schools are suffering a similar evil without such outside influence. When grade teachers get beyond the three R's, spelling, and a modicum of arithmetic, geography and grammar, there is no public pressure brought to bear upon them to teach any recorded amount. What portion of the public or even of school superintendents knows, or greatly cares, just how much ground is covered in Literature, History, Color Work, Drawing, Domestic Science, Domestic Art, Physiology and Hygiene, Manual Training, Music, Nature Study and Gymnastics? Indeed, in the newly adopted New York City Course teachers are either expressly instructed, in printed directions, or evidently expected, owing to the wording of the directions, to choose only that amount in such subjects which they can treat properly. Yet in that city the complaints against overcrowding are numerous and violent enough to produce the suspicion that the school authorities are standing over the teachers with a lash, to compel them to do an impossible task. What is the explanation? There is reason to believe that it is to be found primarily, though not wholly, within the teachers themselves.

It is not uncommon for people to impose heavy burdens upon themselves, then to go into mourning in consequence. And this is the case with grade teachers, inasmuch as they are under the guidance of ideals, or ideas, that themselves lead to overcrowding. College professors, no doubt, are subject to the same ideas; otherwise, their influence on the high school would be chargeable solely to their natural perversity. The millenium, therefore, might not come to high schools even if colleges ceased to exist; for it is quite possible that secondary teachers would have to blame themselves for an overcharged curriculum, if they could no longer make the college a scapegoat for such ills. The fact is, overcrowded curricula are the fashion, rather than the exception, in all kinds of educational institutions.

Let us see the reason for this condition. In particular, let us consider the main ideas that have been guiding teachers during the last generation in the selection of subject matter for the elementary schools, and determine to what extent these ideas are now acceptable as standards for selection. Then we shall proceed to discuss the omissions that these accepted standards require.

1. Belief in utility long ago established the three R's in the curriculum, to be accompanied by spelling, composition work, grammar, geography, and some physiology. This, to be sure, might be material quite free from thrilling incident for the pupil, but it was considered absolutely necessary for later life. Our present interpretation of social requirements and needs includes this doctrine of utility, but is much broader.

In the first place, health is accepted as a larger factor in life and in the school. We therefore require not only physiology and hygiene, but physical examinations of children, games, and physical exercises in abundance.

Secondly, history including civics, and nature study, must be added to these without debate.

Thirdly, our belief in emotion, as a vital factor in securing efficiency is far stronger than formerly. Hence much more emphasis is placed on literature, music and fine arts, than twenty years ago. Through the latter subjects one is made not only more refined and sympathetic in various directions, but more energetic as well; one function of emotion is the production of energy, and energy is coming to take the same rank in education as *steam* takes in manufacturing.

Fourthly, the old notion of utility, coupled with greater belief in *efficiency*, calls also for manual training, domestic science, and domestic art. These are studies that combine theory with practice. Indeed the accepted principle, "no impression without expression," not only strongly supports these subjects, but is even insisting that an end-point of *practice* be added to various other studies, such as fine art, literature and nature study, thereby threatening greatly to increase the amount of time necessary for such branches.

In brief, therefore, our present interpretation of social requirements and needs, as the first standard of selection of a curriculum, is far broader than that of a generation ago. Utility is still our watchword, but not the bread-and-butter variety alone. High ideals, permanent interests, energy, and ability to apply

theory, also rank among the most useful acquisitions and, accordingly, we have added numerous lines of study to the meagre curriculum of our childhood. It is thus apparent that there is no satisfaction, at this point, to be gained by those desiring to curtail the curriculum. But other ideas have been very important in introducing and rejecting subject matter, especially the topics within these separate lines or studies.

2. The children's mental ability is one of these ideas. In the main the limits in the children's power of comprehension have always acted as a check to the introduction of material. Yet not an absolute one by any means. A retentive memory, for example, has often led to the introduction of memory gems from the Bible that could not be comprehended till later. But we have now become generally convinced that there is so much classic material, even in the Bible, which *children can* fairly understand, that there is no need of admitting other selections. The one argument supporting this conviction is the fact that, the younger a child, the more important that each year and each subject of study will prove richly nourishing to him. The fullest possible growth *now* is the fullest preparation for the future. Therefore, it is folly to sacrifice the present for the future, and *any* subject that cannot be fairly comprehended by the child at the time it is presented, should be excluded.

3. The children's interest has been a third factor, closely related to the preceding, and recognized as increasingly important in recent years. On the whole, interest is necessary for the same reason as comprehension, because both are essential to proper digestion. But the interest likely to be aroused by a subject should not be an absolute test of its worth. Every kind of subject matter should run the gauntlet of the first two factors named, to wit: social needs, and the child's ability to comprehend, before being accepted in the curriculum. But not so with this third point. Indeed, these two first standards, particularly the first, may be so important as to overrule the third entirely. This is the only explanation of our admission of spelling, writing, the multiplication table, and beginning reading in the curriculum. For, certainly, we do not expect the intrinsic interest excited by these studies to make children hilarious. In other words, in spite of improved methods, there is some school work that approaches drudgery in nature, and we propose to retain it because it is a social requirement. The test of interest, therefore, is not absolutely binding. We can only say that, in general, whatever does not promise to excite an intrinsic interest, has *one* strong point scored against it; and, unless other reasons for its acceptance are particularly strong, it should be rejected.

A fourth factor that has been very influential on admissions to the curriculum has been the scientific attitude towards knowledge. According to this idea, any fact is valuable because it is a fact, and should therefore be learned. Remarks of that kind are frequently heard in nature-study classes. It is partly the love of more logical completeness that had led to extensive classification in grammar and in science, and that insists on the cause of the seasons in geography. But this idea should be utterly rejected as a standard of selection, on the ground that it has no negative side; it lets down the bars for anything and rejects nothing, hence it is non-selective, and cannot guide.

A fifth extremely influential factor has been "the harmonious development of all the faculties," as the accepted aim of instruction. But what topic would be rejected when tested by relation to this aim? Like the former, it is a blanket excuse for anything and everything. Recall for instance how it has favored the hard problems, that puzzled the teachers in arithmetic, the mere lists of names in geography and of dates in history. It should be utterly rejected as a standard of selection, on the ground that it is absolutely non-selective.

Mental development should be expected as a very valuable by-product brought about in the course of the accomplishment of pieces of work that for other reasons deserve to be done. Only when this view is taken, and when the above statement is forgotten as a test of subject matter, is there promise that one of the chief barriers to a sane curriculum will be removed. It must be admitted that the last two points, when applied to the high school and the college, tend to knock the props from under some prominent studies, as algebra, for instance; but I for one, am ready to go on record as opposing any subjects that owe their existence in the curriculum mainly to the fact that they contain facts, or exercise

the mind. Life is too full of large specific ends to be attained, to allow time for work that has no really tangible object.

The sixth and final factor that I wish to discuss is the prevalent conception of thoroughness. I am convinced that the ruling notion of thoroughness is the most vital factor to be considered in the present problem. It is also one that concerns the high school and college, at well as the elementary school.

Thoroughness in spelling means the mastery of every word; thoroughness in primary arithmetic means a knowledge of every possible combination of numbers within a certain limit. Thoroughness in beginning reading, and in writing, likewise means primarily ability to recognize or make each word and letter. In these subjects, on the whole, there is no special organization of matter called for; the unit of progress is one small fact; questions as to what is large and small, or as to relative values, do not fit in, and there is no excuse for neglect of any single part. One must simply begin at the beginning, and work until he reaches the end, taking all as he goes. Here the sum of the details in each study makes up the whole. Hence, in these cases, the proverbs hold that "thoroughness has to do with details," and that "trifles make perfection."

Now it is natural to want to apply this conception of thoroughness to other branches of learning, thereby placing all the parts of literature, history, nature study and geography on the same level, as equally worthy attention. Then it becomes the employment of the teacher and pupils to "run down facts."

But their task is hopeless; for there are so many possible things to consider that such studies as these have practically no beginning or end; they contain very many large and innumerable small thoughts, many of the largest being not even in print, but to be read between the lines. And thoroughness in these means, first of all, judicious selection, a careful choosing of the more valuable parts, with willingness to neglect the rest. This latter is the vital point here. Thorough instruction parallels good discipline in the requirement that many things be overlooked. Until we have learned to slight and even to omit outright, as well as to lay special emphasis here and there, we are unprepared to read a book intelligently; and until our conception of thoroughness favors such action freely, we lack one of the first elements necessary for the selection of a curriculum, particularly the major part of it, the details. In brief, thoroughness in the treatment of most topics means the selection of the main points, and whatever details are necessary to support them, with the neglect or omission of whatever facts are comparatively unnecessary or irrelevant to these main issues.

Of the six standards for selection that have now been considered, two are rejected outright because they are practically non selective, namely, truth for truth's sake, and the harmonious development of all the faculties: and one needs very serious modification, the conception of thoroughness. Accordingly we hold to the following propositions in the rejection of subject matter:

a. Whatever cannot be shown to have a plain relation to some real need of life, whether it be æsthetic, ethical or utilitarian in the narrower sense, must be dropped.

b. Whatever is not reasonably within the child's comprehension, likewise.

c. Whatever is unlikely to appeal to his interest, unless it is positively demanded for the first very weighty reason.

d. Whatever topics and details are so isolated or irrelevant, that they fail to be a part of any series or chain of ideas, and therefore fail to be necessary for the appreciation of any large point. This standard, however, not to apply to the three R's and spelling.

Now for the application of these standards.

It is evident, at the start, that in spite of our large number of studies, not one can be wholly omitted. Reform does not lie in that direction. It is well to call to mind, too, when violent complaints break forth against our excessive number, that the French programme for the common school includes all the branches that we ordinarily have, and distributed over about as many years. Substantially the same statement holds for Germany, for while she largely neglects handwork, except sewing for girls, one of her most prominent subjects is religion. And the English code for 1900, for the public elementary school, almost duplicates the German plan, with the exception that various kinds of handwork tend to take the place of religion. Judged by these

civilized nations, therefore, we have not yet gone mad in our devotion to fads.

Omissions, then, must be confined to particular topics and details. Again the example of the French is suggestive, for, every second year of their course, they largely duplicate the work of the preceding year, thus devoting nearly one-half of all their time almost exclusively to review, aside from the abundance of review provided while the ground is being covered for the first time.

1. Let us first apply these standards to arithmetic. The contents of even the newer texts can be scarcely any guide whatever, because commercial competition has made these books almost encyclopædias on quantitative facts. But on the basis of social custom, our first standard, the following things—very often taught—may well be omitted: Apothecaries' weight; Troy weight; examples in Longitude and Time, except the very simplest, involving the 15° unit, since our Standard time makes others unnecessary; the furlong in the linear measure; the rood in square measure; the dram and the quarter in advoirdupois weight; the surveyor's table; table for folding paper; all problems in reduction ascending and descending, involving more than two steps; the G. C. D. as a separate topic, but not practice in detecting divisability by 2, 3, 5 and 10; all common fractions except those of a very low denomination and customary in business; all work with L. C. M. except the L. C. M. of such common denominators as those just mentioned; complex and compound fractions as separate topics; compound proportion; percentage as a separate study, with its cases; true discount; most problems in compound interest and all in annual interest; problems in Partial Payments, except those of the very simplest kind; the same for Commission and Brokerage, for example, all problems involving fractions of shares; Profit and Loss as a special topic; Equation of Payments, made unnecessary by improved banking facilities; Partnership, made unnecessary, in the old sense, by stock companies; Cube root; all algebra, except such simple use of the equation as is directly helpful in arithmetic; In addition to all these, arithmetic may be omitted as a separate study throughout the first year, on the ground that there is no need of it, if the number work incidentally called for in other work is properly attended to.

2. In Geography the following subject matter might well go: All explanation of the cause of seasons, except the mere fact of the changing direction of the sun's rays. There is no special demand for such matter (except possibly teachers' examinations) and it is beyond the grammar school pupils' comprehension, calling into use our second standard; the cause of the tides, leaving the facts only. Quite probably one of our two treatments of Asia, Africa, Australia and South America. French and German children study their native country very thoroughly, and Europe fairly well. They attempt comparatively little with the remainder of the world. But we would be unwilling to adopt their plan. But why could we not have one good treatment of these four continents—with more interesting detail than we ordinarily present in either our small or our large geography—and then expect the supplementary reading to continue this geographical knowledge? It should be remembered that, while we have a large amount of supplementary reading, its content is not usually prescribed. But it should be. This plan might save one year of geography work.

3. In Grammar the potential mood can probably be omitted, and all of the minor classifications, such as the kinds of limiting and of qualifying adjectives, of co-ordinate and sub-ordinate conjunctions, etc. This separate subject need not then receive more than one year of study, with one period daily. So much for the omission of somewhat definite topics, a very inadequate treatment, I must admit.

These suggestions, if adopted, might lead to some improvement. But the main remedy lies outside of them and it is to be found in a changed conception of thoroughness. Thoroughness, as we saw, involves much selection, with special emphasis on the main issues and such details as are really necessary to them, with corresponding neglect of other facts. But the average scholarly person is disinclined to selection, involving omission; indeed, his conscience revolts at such intellectual slovenliness. He sets to work to master a chapter in the Bible by taking one verse at a time, just as he would master a spelling lesson by learning one word at a time. He can get a history lesson of five pages, because he can learn *all* the facts presented; but a twenty-page lesson would be beyond his power, because he has never learned to choose principal points and let others go. Thoroughness in these cases include *all*, where it should include only a *select portion*.

Here is the difficulty that confronts teachers when they approach a modern curriculum. Every one believes in an enriched course of study, with many options, in accordance with the environments and abilities of children and teachers. But the latter, being accustomed to begin at the beginning and take everything as they go, in spelling, in the multiplication table, etc., even to the end—often the bitter end—are confused when they come to such studies as literature and nature study that really have no well-defined beginning or end. What can they do? Merely begin, and go as far as they can, and then sign over the impossible task assigned.

And when finally one topic has been chosen from among a dozen selected, as

crayfish, for example, in Nature Study, note the same tendency to go from beginning to end, in this case, from head to to tail, observing "all that one can find." How, otherwise, would one know when he had finished? I am not wanting to decry the average teachers here. These remarks apply rather to our so-called best teachers, to those who are really excellent in most respects.

In one of our best schools I was recently present while a second grade class reached the conclusion that grasshoppers habitually lived in dry, sunny places, the children, when playing, having seen them there. They decided that the insect went under boards and rocks when it rained, and some related how they had fed some captive grasshoppers apple and water.

I saw a fifth grade write out a description of a dead red-oak leaf, the paper nearest me reading as follows:

RED OAK LEAF.

Size—7½" long; 4" widest part
Shape—somewhat oval—widest at top
Lobes—Alternate; long pointed, 10 lobes on leaf
Indentation—10 indentations, rounded, deep, alternate
Petiole—short, thick, dark brown, midvein thinner near top of leaf
Veins—alternate, thin, not many
Color—dark brown, near mid vein.

What a mass of worthless matter in such instruction! Much of it is so valueless that there is no pretense of reviewing it next day; it is even unnecessary for examinations. Here lies probably the greatest waste in our instruction. Where there is no careful selection of details there is only an aggregation; chaos rules there, and despair is constant, because the field can never be covered. The teachers are not satisfied with such haphazard work, but it is difficult to bring about improvement. However, the difficulty lies not in method, but in the choice of matter, and I desire to make three recommendations in regard to the remedy.

In the first place, the subject matter in those branches that easily offer mere aggregations of facts like history, geography, and nature study, should be brought under as few large headings as possible, just as a good lecturer is under obligations to present his thoughts under a very few points. These headings, too, should be so worded as to be truly restrictive. Chapters in history on "Columbus" or "the early explorers," and "the settlements;" or in geography on "the Western States," do not meet this requirement; they admit a wide range of fact, much of which may be practically valueless. Suppose, on the contrary, according to the suggestions of some of my friends, we study in history: How the Europeans Found a New World, How Spain Took Possession of This New World, How a Rival Sprang Up in France, How the English Came to be a Second Rival, etc.; also in geography: What are the principal industries that have become established in the Western States, and their cause. Such headings, because they are definite problems and, therefore, restrictive, would ensure extensive eliminations of minor topics in most of the studies.

In the second place, those sub-topics should be selected in each branch of study that are the best types of large groups, and that thus give control of the strategic positions in the field. In history, for example, the causes of our wars might be considered in detail, but the study of the wars themselves should, I believe, be reduced to a very few crucial campaigns and battles, these being accepted as representatives of the others. So irrigation about Salt Lake City or in Southern California might be carefully studied, once for all, as types of such attempts the world over. There is already a growing conviction that strategic positions, as secured by types, should receive the same emphasis in the curriculum, as strategic positions in a physical way receive in warfare. As that idea is applied further, it will make us willing to omit, entirely, many topics that we now include, and do more intensive work on a few.

In the third place, the leading questions that need to be answered under each type, or other topic, need to be clearly conceived in order to find a basis for selection of details. For instance, I have an extension class of 76 primary teachers—much above the average in ability—who agreed on 23 little points that they desired to teach on the cat, as a topic in Nature Study. But until the principal questions that they had to answer in regard to the cat were known, to which these many facts might be the answers, their subject matter was absolutely unorganized, and they were unprepared to give the instruction. Now our main interest in cats is as pets, and if we set out to learn (1) to what extent cats can provide for them-

selves, and therefore (2) to what extent, and how, we should take care of them as our pets, we shall cover all that is necessary about them. And when we desire only the answers to these problems, we are given a standard that allows the omission of the number of teeth, the color of the hair, the length of the tail, and forty other facts that might consume time; in short, that lets us know when we are done with the cat. So, if we set out to find out how grasshoppers sometimes prove injurious to man, and what means may be used to destroy them, we must discuss the food of the insect, his voracious appetite, his means of locomotion and quickness, his enemies, including parasites, his protection by mimicry, and his stages of development; but we shall have no time to consider whether or not he knows enough to go under cover when it rains, provided he can find cover, or the fact that he can eat apples, since he will never get many apples to eat anyway.

Similarly, in geography, if we set out to learn what are the main industries that have sprung up in the Western States, with the causes, we shall need to consider the climate and topography, as the principal key to the situation, and then the mining, lumbering, agriculture, manufacturing, trade and manufacturing centres, etc., but we shall have no excuse for bounding all the states, learning each capital and locating various capes, small towns, insignificant mountains, etc. Above all, we shall be unwilling to drop into state-treatment of our theme, which means a mere aggregation of facts, dry enough to cause a healthy child to long to play hookey, not for the pleasure anticipated, but for the pains escaped.

These three recommendations together call for such an organization of subject matter as has thus far been scarcely attempted. The thoroughness customary —and probably justified—in the three R's and spelling, ignored unity of arrangement entirely; indeed, was independent of it. But the thoroughness proper to other studies presupposes organization, and is based upon it. This kind of thoroughness requires that much attention be directed to relative values or perspective, and to sequence, just as in a story.

And such organization must be planned from the learner's point of view. Up to the present, however, the content of study has been determined from the scientific point of view, so far as there was a point view, and the love of "truth for truth's sake" has been so marked that one fact has seemed nearly as good as another; hence the curriculum of the common school reveals little selection or pedagogical arrangement. Studies, like geography and nature study, are little more than conglomerate masses of facts, showing our educational development to be still in the barbarous stage. Studies in the high school and college are little better. History, for example, is no better organized there than in the grades, and probably not so well. To be sure, in some subjects, there is a more highly developed classification, but it is not the classification most appropriate to the learning mind, because the scientist's point of view is not that of the learner's; it is rather that of the philosopher, who has digested his field and then arranges it logically, not psychologically.

The extent to which pedagogical organization of most studies is lacking is most clearly revealed by turning to literature, the only branch that is not an offender in this direction. Literature shows a few large thoughts supported by innumerable details; but the latter are so subordinated to the former that the outline of the whole is simple, and relative values are apparent. Also the sequence from fact to fact is so close, that reproduction from memory is easy. Here is the ideal. The problem is, shall other studies, likewise containing an abundance of rich thought, aim at similar organization; shall they approach a narrative form, thus providing an easy perspective, and eliminating all detail that is irrelevant or that fails to fall into line? If literature were accepted as a standard for other studies, as to selection and arrangement of matter, and if intelligence were shown in the attempt to attain this standard, we should omit much of what we now teach, and complaints against overcrowding would be fewer.

In conclusion, although some large topics should be omitted, reform in the main is not to be effected by lopping off here and there, but changing the present aggregation of ideals in each study to an organized body of thought. It is not the task of grade teachers nor of scientists but of the most advanced and ablest

students of education, who are as well posted in subject matter, as in the principles of education itself. Even these have more than a life-problem in such a task.

More than insight, however, is necessary to bring about such a change. The violence of complaints among teachers against over-crowding has been equalled by their obstinacy when it comes to definite omissions. But we must honestly agree to be willing to omit many things, even though they have long been held sacred, and were even instrumental in bringing many of us to our present high state of efficiency. All of us have been radicals for some years in admitting new things. Let us now apply the same spirit to the omissions.

SOME WORLD'S FAIR FACTS.

QUESTION AND ANSWER.

Q. Why is the World's Fair at St. Louis to be held?

A. To celebrate the Centennial of the Louisiana Purchase in 1803.

Q. What was the Louisiana Purchase?

A. The purchase of the territory of Louisiana, comprising all the country lying between the Mississippi River and the crest of the Rocky Mountains.

Q. Who were the parties to the purchase?

A. The United States on one hand, which held the territory east of the Mississippi, south of Canada, and north of Florida; and on the other, France, which held the Louisiana territory.

Q. What did the United States give for the Louisiana territory?

A. Fifteen millions of dollars.

Q. What noted persons were parties to the transaction?

A. Thomas Jefferson, President of the United States; Robert R. Livingston, United States Minister to France, and James Monroe, special envoy to France, who assisted Livingston. Napoleon Bonaparte was then First Consul of the Republic of France, and Francois Barbe-Marbois, the French Minister of Finance, acted for Bonaparte in making the sale.

Q. Who explored the Mississippi Valley and the Louisiana territory?

A. Father Marquette, Robert de LaSalle and others representing the French people who had colonies on the St. Lawrence River. They had been preceded by De Soto and several other Spanish explorers.

Q. When did Spain acquire possession of Louisiana?

A. In 1763, after the treaty of peace at Paris, when France, which had ceded Louisiana to Spain under the secret treaty of 1762, gave up all her other possessions in North America to Great Britain. Spain held the territory for thirty-seven years, returning it to France on the demand of Napoleon Bonaparte, through the secret treaty of St. Ildefonso, October 1st, 1800. France did not take possession until after the sale to the United States, when it did so in order to give a legal title to the purchaser.

Q. Why was the purchase of the Louisiana territory important to the United States?

A. It gave this nation the control of the Mississippi River system and extended its title over a territory greater than the original area of the country. It also made possible the later acquisition of the territory west of the Rocky Mountains, making a country under one government reaching from the Atlantic to the Pacific Ocean. It prevented the United States from being enclosed east of the Mississippi River by hostile European powers on the north, south and west.

Q. What are the States and Territories formed from the Louisiana Purchase?

A. Louisiana, Arkansas, Missouri, Oklahoma, Indian Territory, Kansas, Colorado, Nebraska, Iowa, Minnesota, North Dakota, South Dakota, Wyoming and Montana—fourteen in all.

Q. Did the Louisiana Purchase include Texas to the Rio Grande?

A. The United States held that the Gulf boundary extended from the Rio Perdido on the east to the Rio Grande on the west. This was denied by Spain, and the dispute was settled by the treaty of 1819, by which the United States acquired Florida from Spain, and all of Spain's claims to the Oregon territory, and at the same time conceded all of Texas to Spain from the Sabine to the Rio Grande.

Q. What was the population 100 years ago, and what is it now?

A. About 80,000 to 100,000, not counting Indians, at the time of the purchase; about 15,000,000 now.

Q. How were the boundaries of the United States extended to the Pacific on the northwest?

A. In drawing the treaty of cession, the French minister advised that boundaries be left indefinite; immediately after the purchase was made, the Lewis and Clark expedition, then in readiness, started from St. Louis and explored the northwest to the Pacific so as to support the title "by right of discovery and occupation."

Q. What States were formed of territory thus acquired in consequence of the Louisiana Purchase?

A. Oregon, Washington and Idaho, with a population in 1900 of 1,093,000, and an area of 245,730 square miles.

Q. What relation does the area of the Louisiana Purchase bear to the areas of various European countries?

A. It is greater than the combined areas of France, Germany, England, Scotland,

Ireland, Wales, The Netherlands, Belgium, Italy and Spain.

Q. What was the relation of the population of the Louisiana Purchase in 1900 to the population of the United States in 1800?

A. It was nearly three times as great, the population of the United States in 1800 being only 5,308,000, while the population of the Louisiana Purchase States and Territories in 1900 was 14,708,000. The population of the Louisiana Purchase in 1902 is probably more than three times as great as that of the entire United States in 1802.

Q. Why was St. Louis selected as the place for holding the Louisiana Purchase Centennial Exposition?

A. This city was chosen unanimously by a convention at the Southern Hotel, St. Louis, January 10th, 1899. This was the result of agitation that had been going on for several years. The convention was made up of 93 delegates appointed by the governors of every State and Territory of the Purchase. St. Louis is the largest city in the Purchase and most conveniently situated. Its important interests and large population were looked upon as a guaranty of its success.

Q. What was the next step?

A. The convention invited the United States Government to assist in the enterprise, and appointed an executive committee with the Hon. David R. Francis as Chairman. This committee appointed a committee of fifty citizens of St. Louis, representing its many important interests.

Q. What did the committee of fifty citizens do?

A. They prepared a plan for raising the money to build the exposition buildings and to defray the general expenses of the undertaking?

Q. What was this plan?

A. It fixed the amount to be raised at $15,000,000, the amount that was paid to France by the United States for the entire Louisiana Territory. One-third of this amount was to be raised by private subscription, one-third to be paid by the city, and one-third to be asked from the United States Government. The committee was increased to 200 members, and the plan was carried out. Congress passed a bill June 4th, 1900, in which government support and an appropriation of $5,000,000 were promised if the citizens of St. Louis raised $10,000,000. On January 12th, 1901, the popular subscription of $5,000,000 from the citizens of St. Louis was completed, and on January 30th, 1901, the Municipal Assembly of St. Louis passed an ordinance authorizing the issuance of city bonds to the amount of $5,000,000. The bill appropriating $5,000,000 was passed by the House of Representatives February 9th, and by the United States Senate March 3d, 1901. President McKinley signed the bill immediately, and appointed the National Commission of nine members March 12th.

Q. What is the scope of the World's Fair?

A. All that its name indicates. On the 20th of August, 1901, President McKinley issued a proclamation addressed to all the nations of the world, inviting them to participate in the World's Fair at St. Louis. This invitation was sent through the Department of State of the United States to the chief magistrates of all governments. The acceptances received indicate the official participation of nearly all the civilized governments of the world. The list of fifteen exhibit departments shows the broad scope of the Exposition, embracing not only all nations, but every worthy effort of mankind showing progress in intellectual pursuits and skill in handicraft.

Q. What is the area of the Exposition site?

A. Approximately 1200 acres, the form being that of a parallelogram one mile wide by two miles long. Of this area 668 acres are in Forest Park, 110 acres Washington University site, and the remainder adjacent lands leased from private owners. The contour of the ground is rolling, the hills furnishing commanding sites for many beautiful buildings.

Q. How many exhibit buildings are there, and what are their dimensions?

A. Fifteen large buildings, the Art Palace consisting of three parts, having a frontage of 836 feet and a depth of 422 feet. Its cost, with the sculptural decorations, is over $1,000,000. The Education and Social Economy Building is 400 by 600 feet; Liberal Arts Building, 525 by 750 feet; Manufactures and Varied Industries Buildings, each 525 by 1200, with towers 400 feet high; Textiles and Electricity Buildings, each 525 by 750 feet; Machinery Building, 525 by 1000 feet; Transportation Building, 525 by 1300 feet; Agriculture Building, 500 by 1600 feet; Horticulture Building, 300 by 1000; Forestry and Fisheries Building, 400 by 600; Mines and Metallurgy Building, 525 by 750; United States Government Building, 200 by 800; Ordnance Building. It will be noted that the buildings range from seven to twenty acres in floor area.

Q. What is the estimated total floor space for exhibit purposes?

A. Two hundred acres.

Q. How does this compare with other World's Fairs?

A. It is twice as large as any previous exposition in any country.

Q. What are the other buildings of importance?

A. The State buildings will be prominent features of the Exposition. It is probable that there will be at least thirty of these, possibly more. The Temple of Fraternity, 200 by 300 feet, containing eighty rooms for headquarters for fraternal orders, is one of the fine buildings. The "House of Hoo-Hoo," the headquarters of the Lumbermen's Associations, is another important building. The Missouri State Building will be made

probably of fire-proof materials, and will be a magnificent permanent structure. The live-stock pavilions will cover not less than twenty-five acres. The foreign countries will have many buildings.

Q. What are the landscape features?

A. The central outdoor picture will be the Cascade Gardens above the great basin at the southern terminus of the Grand Prospect, which separates the Manufactures and Textiles Buildings from the Varied Industries and Electricity Buildings. Above the terraced gardens and cascades will be a Festival Hall and a beautiful architectural screen more than 1,400 feet long, built in a long, graceful curve, and terminating in two restaurant pavilions. The Festival Hall will occupy the center, and the screen will be richly ornamented with statuary. The whole picture will be one of exquisite beauty.

Q. What are the plans for evening illumination?

A. Electric lighting upon an elaborate scale has been planned. Every building will have a part in the grand scheme, and the central feature will be the Cascade Gardens and their immediate surroundings, which will be brilliant with light. The wooded portions of the site will be an enchanted forest more wonderful than any described in tales of fairyland.

Q. What is the Washington University tract?

A. This university is one of the famous educational institutions of St. Louis. It has been liberally endowed within a few years, with the result that a site was bought and the erection of a magnificent group of university buildings planned. Many of these have been built, and before the Exposition opens more of them will be quite complete. The cost of these buildings will be $1,500,000. The right to use this property has been granted to the Exposition. When vacated by the Exposition the university will be moved from its old quarters in the city to the new home. The buildings are used by the exposition for administration offices, the Jefferson guard or exposition police and for many other important purposes.

Q. When will the Exposition open?

A. As provided by the act of Congress, it opened April 30, 1904. The act provided that the buildings and grounds should be dedicated with fitting ceremony not later than April 30th, 1903, which was the 100th anniversary of the Louisiana Purchase. The Exposition will continue seven months, closing December 1st, 1904.

Q. What important events have been planned?

A. The most original and interesting is perhaps the Aerial Tournament. In this contest the grand prize of $100,000 has been offered, with $50,000 more in minor prizes. The contest is for air-ships, movements of which can be controlled, the conditions requiring that they shall sail over an L-shaped course not more than 15 miles long, making two full turns and two half turns. The course will be marked by captive balloons. Other great features will be the military encampment and drills, the great horse show, athletic events upon a splendid permanent athletic field. Every day of the Exposition season will be a festival of attractions. A series of interesting congresses will attract the leaders in many lines of thought from all parts of the world.

Q. What is the population of St. Louis?

A. Five hundred and seventy-five thousand in 1900, exclusive of suburbs. Present estimate, including East St. Louis and suburbs, place the population at 800,000. The city has an area of 62½ square miles or 40,000 acres. The frontage on the Mississippi River is twenty miles.

Q. What are its railway connections?

A. It is the center for many systems. The trains of twenty-four lines enter the Union Station, which has thirty-two tracks, covers eleven acres, and is one of the largest railway stations of the world. One great passenger station serves all roads.

Q. What are the street car facilities for the World's Fair?

A. Two street railway systems serve St. Louis, the Transit Company and the Suburban. These two systems reach the World's Fair site at several points, so that visitors may travel to the Fair from any part of the city for a single fare.

Q. What is the commercial importance of St. Louis?

A. It is not only the largest city west of the Mississippi, being the fourth in population in the United States, but it is the principal gateway of commerce for the great southwest. In some lines of manufacture it is the most important city in the world. It is also one of the great markets of the world in other important lines. The city contains 8,000 factories of all kinds, and consumes and distributes in enormous volume the products of the factories of many of the eastern cities. Its great financial strength may be attested by the fact that a bank failure is almost unknown in the city. It is the great money center of the Mississippi Valley. St. Louis is perhaps the most nearly fire-proof city of the United States. For many years all buildings, including dwellings, have been made of non-combustible materials, with metal or slate roofs, so that a great conflagration would seem an impossibility.

Q. What are the accommodations for World's Fair visitors?

A. St. Louis is famous for taking care of great crowds. The city has a complete hotel equipment, from the finest hostelries to those less pretentious for visitors of moderate means. In the residence districts are many fine family hotels and good boarding houses. Many temporary hotels for World's Fair visitors exclusively, will be found near the Exposition grounds.

PREFERENCE IN ENGLISH SPELLING.

BY DR. EDWIN W. BOWEN.

WE little think when we read or write that the words we employ are not precisely the same as those which have been in use in our mother-tongue from time immemorial. We are born into the language, so to say, and the words of our vocabulary we regard as part and parcel of our rich heritage of American liberty. Yet even the words of our English speech, like many of the institutions and customs of our Angle-Saxon civilization, have a long history back of them, showing traces here and there of the various stages of development they have passed through. The words we use to-day are not identical in form or meaning with those employed by our forebears of the generation of Chaucer or even of the generation of Shakespeare.

Before the invention of printing, those who spoke and wrote the English language seem to have been at liberty to spell as they chose. Their mental composure was not disturbed by the annoying suspicion that their spelling was not according to the norm prescribed by the dictionary. In those good old days there was no acknowledged criterion such as the "Century," or "Webster," or "Worcester;" and writers had no final appeal in the matter of orthography as present-day writers have. We find an allusion to this delightful sense of freedom in the comment which a well-known American humorist made upon Chaucer, that well of English undefiled from which so many modern writers have drunk copious draughts of inspiration. "Chaucer," said he quaintly, "may have been a fine poet, but he was a —— poor speller."

The diffusion of the art of printing and the consequent necessity for a uniform orthography gradually curtailed this liberty, and then the day of the dictionary dawned. The dictionary is a democratic invention called into being by the rise of the great middle class of society, which desired to become familiar with the practises of polite circles. Before the epoch of dictionaries it appears not to have made the slightest difference whether a writer spelled the word *recede*, for example, according to the present accepted orthography, or whether he spelled it *receed*, *receede*, *receade* or *reced*, all of which forms are found in manuscripts of a few centuries ago. Some of these orthographic variations lingered into the eighteenth century, though English spelling had probably become stereotyped at least a century before this date. Yet the establishment of the spelling was naturally a gradual process, and some words vacillated a long time and never really became fixed. Few tongues are more unphonetic than the English. This fact is recognized and efforts have been made to bring our spelling into closer conformity with our pronunciation. Philological societies on both sides of the Atlantic have been trying for the last quarter of a century, at least, to reform English spelling; but only meager success has thus far been achieved.

The proposed reforms have been of two kinds, and they have varying aims. One, recommended by the extreme phonetists, is a reform which contemplates a revision and enlargement of our alphabet. This would result in a radical transformation of our written speech, and chiefly for this reason it has found few ardent advocates. It may be briefly described as a reform *of* the language. The other reform is less revolutionary and contemplates mainly a simplification of our present spelling, such as the omission of silent letters, the substitution of "f" for "ph" as in *phonetics* (fonetics) and of "t" for final "d" as in *equipped* (equipt) and similar emendations. Of the two kinds of reform the latter has, manifestly, more to commend it to popular favor. This kind of reform may be termed a reform *in* the language.

The public concedes the unphonetic character of English orthography, but the conservatism of the Anglo-Saxon race is so binding that the people are slow to adopt even the slightest recommendations of the philological societies. A few American journals have adopted certain amended spellings, such as *thru* (through), *tho* (though), *catalog* (catalogue) and the like, but the majority of our periodicals show by their practice very meager approval of spelling-reform. No publisher, so far as known to the writer, has ventured as yet to use the emended spelling in a book issued by his firm. Yet all admit the need of spelling-reform and believe that, if adopted, it would save the coming generation a vast deal of humdrum work in acquiring an accurate knowledge of English orthog-

raphy. We Americans, however, with our characteristic spirit of independence have made bold to break away from British tradition and custom in the writing of certain English words and have introduced a few minor reforms in our spelling. But the English people have not followed our lead in this matter, being content to allow our adopted American spelling, together with our distinctive pronunciation, serve as an earmark to distinguish American from British English.

As every one knows who has visited the mother country, there is a perceptible difference not only in the spelling, but also in the pronunciation, between American English and British English. Of course the languge is the same in America as in England; and yet there are some appreciable minor points of difference. For example, the Englishman gives the broad sound to the vowel *a*, as in *father*, when it is followed by such a combination of consonants as in the words *ask*, *fast*, *dance*, *can't*, *answer*, *after*, and the like. In America, on the other hand, while this pronunciation is heard in some circles, it is clearly not the ordinary pronunciation, and is not general, as in England. There is also a noticeable difference in the pronunciation of long *o*, the Englishman giving the vowel a distinctive utterance quite unlike that ordinarily heard in America. The pronunciation of the word *been* is a shibboleth by which a man of British nationality may be almost unfailingly distinguished. The native Englisman pronounces the word so as to rhyme with *seen*, not *bin*. In addition to these points of pronunciation there are certain locutions which never fail to betray an Englishman. The English call an elevator *a lift*, overshoes *galoshes*, napkins *serviettes*, candy *sweets*. In England a baby-carriage is called a *perambulator*, which is generally abridged "*pram*" merely; a lamp-post is known as *lamp-pillar* and a letter-box as a *pillar-box*. There no one would ask at a store for a wash-bowl or pitcher, however much he might need these useful household articles, but he would call for a *jug* and *basin*. An American in London must not say street-car, but *tram* or *road-car;* not engine [which is pronounced *injin*], but *locomotive-engine;* not engineer, but *engine driver*. In England many ordinary household articles are known by names as different from those in our country as if the language there were altogether a foreign tongue. Small wonder, then, that a keen-witted American maid remarked, *à propos* of the difference between British English and American English, that London was a delightful place, if you only knew the language.

Nowhere is the difference between American English and British English more marked and interesting than in the varying practice of spelling on both sides of the Atlantic. Let us note some of the points of variation.

Our British cousins assume an exasperating air of superiority when they mention the matter of our spelling, and, as self-appointed conservators of the language, point out what they are pleased to style the offensive eccentricities of American spelling. The British journals ever and anon draw attention to our manner of writing such words as *favor*, *honor*, *center*, *program*, *almanac*, *tire*, *curb*, *check* and *criticize*, and the like, which they spell *favour*, *honour*, *centre*, *programme*, *almanack*, *tyre*, *kerb*, *cheque* and *criticise*. Now, in the case of most of these words, we submit that the American spelling is nearer the historical spelling, simpler and more logical than the British method. As for the words typified by *honor*, our method is simpler and nearer to the ultimate etymology. These words, it hardly need be observed, are borrowed from the Latin through the French. The British maintain that for this reason the spelling ought to conform to the French fashion. But they overlook the fact that these words have not always been written in English according to the French manner of writing. Dr. Johnson, the eminent lexicographer of the eighteenth century, wrote *honor* beside *honour*, *neighbor* beside *neighbour*, *harbor* beside *harbour*, and the like. Indeed, the great Cham allowed himself considerable latitude in the matter of English orthography. Moreover, the Norman-French forms of these words were written in a variety of ways, as *our*, *eur*, *ur*, and also *or*. Even on the historical ground, therefore, there is not lacking some authority for the American spelling.

As for the writing of *center*, *meter*, *meager*, and words of this kind, the American method has as much history and logic in its favor as the British spelling. Analogy, too, if that may be cited as an argument, supports our spelling, for we all write *perimeter*, *diameter*, never

otherwise, whether we be American or English. The word *center*, according to Lowell, who was no mean authority on matters pertaining to our speech, "is no Americanism; it entered the language in that shape, and kept it at least as late as Defoe." "In the sixteenth and in the first half of the seventeenth century," declares Professor Lounsbury, in reference to the spelling of *center* and similar words, "while both ways of writing these words existed side by side, the termination *er* is far more common than *re*. The first complete edition of Shakespeare's plays was published in 1624. In that work *sepulcher* occurs thirteen times; it is spelled eleven times with *er*. *Scepter* occurs thirty-seven times; it is not once spelled *re*, but always with *er*. *Center* occurs twelve times, and in nine instances out of twelve it ends in *er*." John Bellows, in the preface to his excellent French-English and English-French pocket dictionary, states that "the Act of Parliament legalizing the use of the metric system in this country [England] gives the words meter, liter, gram, etc., on the American plan."

In regard to words ending in *ize*, usage in Great Britain has established the writing *ise*, as in *civilise*. However, new formations even there are usually made to terminate in *ize*, which is generally adopted in America. Yet American spelling sometimes exhibits *ise*, after the English fashion. The British writing is derived from the French, whereas the American harks back to the original Greek suffix. The British spelling of *tyre*, *kerb*, *programme* and *cheque* perhaps has as much to commend it as the American *tire*, *curb*, *program* and *check*. Usage in America varies in the case of *program*, the more conservative still clinging to *programme*. *Tyre* and *kerb* are but little employed here. The words are merely variant forms which British usage adopted. The spelling *cheque*, in general use in Great Britain for our bank check, has resulted through the influence of the word *exchequer* with which it is connected.

It is not to be supposed for a moment, however, that our utilitarian disregard of tradition is so strong as to have eliminated all useless letters in our American spelling. There is many a word in which an epenthetic letter is still retained merely because the traditional spelling shows it. *Sovereign*, *comptroller*, *island* and *rhyme* may be cited as examples in point. Perhaps it ought to be added that the emended spelling *rime* for *rhyme* appears to be meeting with favor in certain philological circles.

There is one class of words which does not exhibit a uniform method of writing, either in Great Britain or in America. This class is typified by the words *traveler*, *counselor*, *worshiper* and the like. It will be readily seen that these words are all derivatives, formed from the primary by the addition of a suffix; and the writing vacillates between a single and a double consonant preceding the suffix. According to the well-known principle of English orthography, these words are not entitled to a double consonant, and therefore should never be written *traveller*, *counsellor* and *worshipper*. The rule is, if the final syllable of a word ending in a single consonant and preceded by a short vowel is accented, the final consonant, on the addition of a suffix beginning with a vowel, is doubled; but never otherwise. Thus we write *offered*, *deviled* and the like, but *referred*, *transferred* and *jammed*. Hence the orthodox spelling should be *traveler*, *counselor*, *worshiper*, *unrivaled* and the like. But practice shows that either spelling is regarded as correct on both sides of the Atlantic. These words are survivals from a former period in the history of the language when more latitude was allowed in English orthography and there was no hard and fast line drawn, no fixed standard. The proper historical spelling, it is interesting to note, is with one consonant, as in *counselor* derived ultimately from the Latin *consiliarius*. While either spelling is considered correct, British usage favors the double consonant (*counsellor*) and American the single (*counselor*).

It remains to notice some apparent exceptions to the rule of English orthography stated above. Noteworthy among these are the words *handicapped* and *kidnapped*, which are written alike in British and American English. But they can be explained and are only apparent exceptions. A moment's reflection is sufficient to convince one that *handicap* and *kidnap* are not simple words, but in reality compounds in which the last element has not completely lost its identity in combination. Because of the consciousness of the independent words *cap* and *nap* in these compounds,

they conform to the rule as a matter of fact and therefore double the final consonant, on the addition of a suffix beginning with a vowel. Hence, if they are exceptions, they must be considered exceptions which prove the rule.—*Popular Science Monthly.*

APRIL 19, 1775.

BY WALTER J. BALLARD.

ONE hundred and twenty-nine years ago an event occurred which turned the tide of history westward. The battle of Lexington was fought, the cause of justice triumphed, and the American Revolution had begun. A few years later the republic of the United States of America was legally born, but it was practically born when the sun went down on the fields of Lexington, April 19, 1775.

At that time the colonists of America numbered less than 3,000,000—now the freest republic on earth numbers, without its dependencies, over 80,000,000.

At that time the area of the republic was less than 800,000 square miles—now, without its dependencies, the area is over 3,000,000 square miles.

At that time all our vast country west of the Alleghanies was practically terra incognita—now it is covered with thriving cities, and produces and develops the wealth of nations each year.

At that time the waters of our Great Lakes were the fishing grounds of the Indian—now they carry each year a commerce greater than the internal water-carried commerce of all the nations of Europe.

At that time the Southern colonists esteemed themselves rich if they raised 150,000 bales of cotton annually—now their annual crop is more than seventy times as much.

At that time there was less then 300,000 shipping tonnage engaged in our domestic trade—now the figure is nearly 5,000,000.

At that time our exports and imports, combined, did not amount to $75,000,000—now the total is $2,500,000,000, or close upon thirty-five times as much.

At that time our annual coinage of gold and silver was less than $500,000—now it is nearly $150,000,000, or three hundred times as much.

At that time the aggregate public debt of the colonies was about $15 per capita—now it is only $12.25 per capita.

At that time we had fewer than 500 post offices—now they number about 30,000.

At that time our national wealth consisted almost entirely of determination and opportunity—now we can show tangible assets worth over $100,000,000,000, with still greater determination and far more opportunity.

At that time our factories of importance could have been counted on the fingers of two hands—now we have nearly 600,000 factories of all kinds, thousands of them mammoth in capacity, employing over 7,000,000 workers, earning rates of wages never before reached in any country of the world.

At that time two or three thousand immigrants each year was the rule—now we are receiving and easily taking care of nearly 1,000,000 yearly.

At that time the designation "American colonist" was sneered at—now the Stars and Stripes is hailed the world over as the emblem of liberty and peace, and the herald of prosperity.—*New York Sun.*

ALUMNA'S CHILDREN.

BY AN ALUMNA.

THE latest publication of vital statistics in Massachusetts has again called attention to a subject often discussed in this magazine and elsewhere—the decreasing number of children in native American families. According to the majority of opinions given, this decrease is due mostly to "social ambition." This means that the women who should be, in a real sense, the pillars of our society prefer other things to bringing up their own children. If this is true, it seems a very serious indictment of the American woman. But is the case settled yet? While social ambition may be operative in many cases, perhaps peculiarly among those coming to the notice of a specialist in medicine, may there not be some data that the statistician can not collect—some pertinent facts which in the nature of the case are not within reach of the investigators? Among all the talk by learned men and high officials, it is strange that no member of the class under discussion has spoken to the question. On further

thought the reason is obvious; the case is necessarily of great delicacy and incapable of proof. But because the charge seems to me in many cases so peculiarly unjust, hereby do I rush in where angels have feared to tread.

Dr. Engelmann in his especially interesting article spoke particularly of the college graduates, that "group having a lower birth rate than any other." There may be no need to separate Alumna from the rest of her racial group for consideration, for the body of college women now is made up of nearly all the elements of what may be called the middle class. But because narrowing a subject makes it easier to view; because the birth rate of the alumnæ is the very lowest; and, especially, because I happen to know more of the conditions among college girls, I confine myself to that group. There is no need to question the figures —that 1.8 children is the average family of an alumna wife; but let us consider in the beginning just what that 1.8 children mean. Incidentally, we may think a moment of the marriage rate among college women. Both these relatively low numbers are inspiring in one respect—in the thought of the elements which have been eliminated. If less than 50 per cent. of college women marry, yet of that number few take husbands "for a home" or because they have nothing else to do. Perhaps there are as many happy marriages of companionship among a hundred college women as among a hundred women selected from any class, and does the state lose by the elimination of all others?

Alumna's marriage, then, means that a mature, independent, trained woman deliberately chooses to give the direction of her life to a man, because she loves him well enough to find in so doing her greatest happiness. Of such a mating are Alumna's children born—of a "selected" father, of a mother who has at least had an opportunity for knowledge —born to a heritage of intelligent love and care. So they ought to be a power for good, even though they are few. But just because they are of such a quality, society wants more of them; and it behooves the state to determine why their numbers are so few.

Yesterday I received some evidence on this question which seemed to me pertinent. I spent the day with a member of this group "having a lower birth rate than any other." She had recently buried her only child, hardly a month old. As I was on my way to her, my mind went over her past year; her hope that she might at last be strong enough to bear a well child, the months of illness, the forty-eight hours of agony, the supreme joy so soon followed by anxiety, and the awful loss. And when I saw her face I could not speak. But she spoke, and with a smile: "Don't pity me so. It paid! It pays!" During the hours I spent with her she showed me two books of letters, mostly from college friends of ours. One collection was received when her baby came, the other when he went. "I am so happy to know that your life has been made complete"—this thought was expressed over and over again in the letters of congratulation. Mothers or childless, all these women seemed to know that any woman's life is incomplete until she has known motherhood. Of those notes that came at the little one's death from childless women, married or single, all said, in one phrase or another, "How much sadder than yourself am I, who have no child to die." These letters inevitably suggest the question, why are so few of these women mothers, when all of them speak of motherhood as life's greatest good? It seemed to me a very solemn question, and I went over the list of those whom I know best and found what seems to me a suggestive unanimity.

There is A, the brightest girl in our class, kept from the really brilliant literary career of which she is capable by her physical weakness. She loves a man who is her ideal mate and he returns her love, but they live their lives apart. A short time ago I said something to her about her being married. "Be married!" she said. "What right have I to be married? My physician tells me that I am no more a woman physically than is a twelve-year-old girl. What right have I to give to any man an invalid wife and take away from him his hope of children? I shall never be married!"

B has just adopted a baby. "Because I may never hope to have one of my own," as she wrote. C, apparently well during college days, came to our decennial the mother of three children, but such an invalid that she with difficulty sat up during the class dinner. D had one child who died at birth, and no other has come to her. E, an especially close friend of

mine, has one child and longs for more, but her physician husband is unwilling that she should again take the risk, saying she was "never meant to bear children." F's case is almost the same; a woman of magnificent physique, she refused to heed her doctor. Her first baby lived, but she barely escaped herself; her second child was sacrificed to save its mother's life; "and I can never hope for another," she said to me, her eyes full of tears. G also would not believe her physician, but her hope was justified. Though three times she was disappointed, her fourth suffering gave her a son, who, she says, much more than pays for all. H has two strong, beautiful children. "I wish we had six," said her husband, a college dean, by the way, "but the two that we have cost their mother so much that we should never have any more."

These women are all among my classmates, but conditions are not peculiar to my class or to my college. I could cite as many instances among other college friends, but they are so nearly identical that they would seem merely a repetition. Two friends of mine are now fighting hard for the lives which have been threatened ever since their first babies came, in each case over a year ago. The example of greatest courage, perhaps, is not a a college woman, though decidedly a schooled woman. Five times she went to the very gates of death for her great hope, but only once did she see the face of a living child of hers, and he died at six months.

In connection with a woman's ruling passion, I always think of that gracious lady, preëminent as scholar and citizen, who recently left this world so much the poorer, especially for those who enjoyed the distinction of her friendship. I once heard a woman ask her whether she had any children. "Do you suppose," she replied, "that if I had any children, I should be running around the country talking?" And her tone said, "since all that my life seemed meant for, fails." All other honors were hers, save only motherhood.

Throughout my acquaintance, among not only my college friends but also my husband's college friends, I find, it has seemed to me, a large proportion of childless homes. And wherever a word has been dropped in my hearing as to the feeling of the wife in the matter, it has always been referred to as a great sorrow. I have been considering the question for some years, and have tried to receive any light that appeared.

In many homes that I know, there is an only child. It may seem that here are mothers who can have children, but do not want them. The only child does not mean this, but that the one came so near costing its mother her life that he to whom she is dearer than even his hope of children cannot bear to let her undergo the ordeal again. Dr. Engelmann has referred to the fact that men more often than their wives wish to limit the number of their children. I know many instances where children are few because the one or two who have come "have cost their mother too much." I have known many, many college women who have said, "I *will* have my baby!" Some of them died for the faith that was in them, some of them are happy mothers; a good many are invalids, of higher or lower degree. Occasionally we find an alumna, who, not strong before maternity, is well thereafter. The stunted system develops and she becomes the woman that she was meant to be. And what beautiful families these women have! I recall two; in one there are four children under six, in the other, five under twelve, and all hearty, beautifully brought-up children.

That it is the alumna's misfortune, not her fault, that her children are so few I do not expect to *prove*. The testimony for the defendant can not, in the nature of the case, be brought into court. Even were I made an accredited observer, the examples quoted could give no scientific proof, since so small a per cent. of this class has been examined. But naturally they influence my opinion because they are 100 per cent. of the cases which I happen to know all about.

The theory which attributes childlessness to physical weakness is by no means a new one. It has been consciously or unconsciously suggested over and over again by students of vital statistics. Dr. Holmes touches upon it in a medical address given in 1867; the declining birthrate was attracting attention even then. And again in discussions of the subject by students who are advancing various theories this element in the problem appears. Among later utterances, Dr. Engelmann said, "Race decline is not due to education, not of the educated man at least. The educated woman is in a different class." Professor Thorndike con-

cludes that "the condition is due to a decrease in fertility in the racial group to which college men *and their wives* belong." In passing we might quote another sentence of his: "The opinion of metropolitan physicians may here be as wide of the mark as the common belief that unwillingness is the cause of the failure of the women of the better class to nurse their own children."

If you grant me for a time that the cause of the 1.8—it seems like the judgment of Solomon to speak of tenths of a child!—be physical inability, what is the cause of this inability among the, let us say, schooled American women, with the rate the lowest among those who have been longest in school? What is the cause of the extirpation of that function which one would think would be of all others promoted by natural selection? Is our system of education an element in this result? These questions are surely vital in more senses than one.

Thus far I have been sure of my ground, even if I could not make it clear. Now the way is more obscure, for undoubtedly different influences operate in different classes to undermine the health of our girls. If this weakness of function appears especially among college girls, is then the college course at fault? The birth rate is only a little lower among the alumnæ, and we may find that their disability is due to conditions not directly a part of the college course. Observation has almost universally brought the report that the average girl improves in health in college.

Is then the responsibility in the high school, where the greater part of our girls do their preparatory work? Many girls break down here, we know. Frequently a high school teacher attributes a high school boy's inaccuracy in arithmetic or his slovenly English to "poor preparation in the grammar grades." This may or may not be just, but I wish some one could find how much of the poor health in high school and college and during later life is due to the way in which our girls go to the grammar school. "The way in which they go." There is no special fault in the content of their education, primary, secondary, collegiate or university. There is no need of making their curriculum feminine, lest womanly instincts be dulled. It is the way of taking the schooling, the physical demands of it, that have been responsible for most of the invalids that I have happened to know. Alumna's fate was sealed when she was in the grammar school. When the bee larvæ are about a week old, you remember, it is determined whether they shall become queens or workers. It is simply a question of nourishment; the queen has an abundance of the best food; the worker has a limited supply of inferior quality. The result is a stunting of the reproductive system of the worker bee.

May it not be possible that a similar effect comes in some degree to our women from our school system? The grammar school girl is a larva, if you please, at the age when she should develop a new system of her being, vital to herself and to her race. To perfect these organs she needs all her rich, red blood, all her nervous force. If the brain claims her whole vitality, how can there be any proper development? Just as very young children should give all their strength for some years solely to physical growth before the brain is allowed to make any considerable demands, so at this critical period in the life of the woman nothing should obstruct the right of way of this important system. A year at the least should be made especially easy for her, with neither mental nor nervous strain; and throughout the rest of her school days she should have her periodical day of rest, free from any study or over-exertion. Most school girls have many unhygienic habits, all of which tend toward checking their development. Exactly these points were suggested in an editorial note in this magazine some months ago, I remember. The physical conditions and irregularities general among high school girls are appalling, in reference both to their own enjoyment and to the larger interests of the race.

But this is not an argument against our own system of education in itself; the matter is not one for school boards to regulate. The intelligent fathers and mothers of our little girls to-day are the only ones who can remedy these conditions. They can make the girl take one easy year, even though it means 'losing a grade,' that bug-a-boo of school girls; and they can keep for her her needed days of rest throughout her course. Even a year's delay in graduation is not so bad as a dwarfing of development. To hear a school girl speak to the question of her waiting a year, one would

judge that existence out of her own particular class would necessarily separate her from all the desirable pupils in school. But those arguments—have you ever noticed?—are never employed when a girl is given a double promotion and advanced a class. Losing a grade would not often be necessary, however. Ideal conditions would permit a mother to take her daugher to herself for that one year—to teach her the school work and all the other things in which she needs wise and loving instruction especially at this time, welding a companionship which will be the greatest possible barrier against future mistake and sorrow for the young woman in shaping her life. That it is not always possible for a mother to follow this course I recognize, though it might be arranged much more often than it is if once the mother realized what it would mean. When the mother can not do it, perhaps she can arrange for a little time of private lessons, when her daughter, working at just the rate right for her, can accomplish a term's work with a minimum of study and with none of the nervous strain which comes from competition. I can think of nothing better worth a mother's time than to establish her daughter's health for the rest of her life and make possible for her the blessed things that womanhood may mean.

Finally, there is no doubt that some husbands and wives limit their families to one or two that they may thus do more for those few children, or have none because they can thus do more for themselves—"social ambition," in other words. There may be to some extent a decrease in race fertility in certain racial groups without other signs of physical deterioration; yet there seems to me an amount of evidence too large to disregard which goes to show that the small families among schooled women are due to the physical weakness of the wives. Ask yourself how many really strong women you know. And while there are undoubtedly differing conditions operating in different classes and in different countries, and the contrasts between England and Germany (the birth rate is even lower for the English alumna than for the American), France and Italy, the United States and Canada, can by no means all be explained by this theory, yet I wish some investigation could be instituted to determine how much of the decrease of birth rate among native-born American women comes from arrested development in our young girls—due in some classes to lack of proper food, to lack of sleep, to physical overwork, but in very many cases to their unwise manner of work and to untimely nervous strain in our grammar and high schools.—*Popular Science Monthly.*

IF JAPAN SHOULD WIN.

BY HAROLD BOLCE.

THE war in the Far East may yet prove to be the greatest conflict in history. There is a wide-spread feeling that Japan is fighting the battle of civilization. It is a significant fact that, while the new movement in the Orient is toward the west, the star of empire has ceased to light the path of the Aryan and is now illuminating the march of the yellow man. For the first time the advance of awakened thought and ambition toward the west is being conducted by a people who form no part of the phalanx of races that has carried civilization around the earth.

The Pilgrims took Aryan blood and vigor and Aryan ideals across the Atlantic. In the name of civilization their sons took possession of the American continent. Half a century ago an Aryan commodore crossed the Pacific and quickened a new race of men into being. Since then the Aryan advance has occupied a few islands in the Pacific. In the meantime the people whom Perry quickened into magical life have built themselves an empire, modern at least in its outward activities and ambitions; and it is that race, and not the descendants of the races that have hitherto borne the brunt of battle and conquest and civilized development of new domain, that has planted the standards on the continent of Asia.

Is this the beginning of a new migration around the world? It is my belief that it is, and that it cannot be restrained, even if such suppression were desirable, and that it is the plain duty of Anglo-American enterprise to merge Western moral, commercial, and political ideals with the new movement of mankind. Would either Americans or Britons be content to see the great Aryan impulse pause in the islands of the Pacific while Mongolians pressed forward from the East with a new gospel of civilization?

Throughout the Orient the intelligent comment is that, whatever the immediate outcome of the conflict with Russia, Japan's future is assured. The very fact that it had the resolution and daring to go to war with a great European power has added immeasurably to the prestige of Japan. Even those who foresee a Yellow Peril do not believe that it would contribute to the welfare of the world to have it checkmated by the advance of the Slav. China's four hundred millions cannot be eliminated from the problem of the world by any decrees of state. Triumphant Japan would exercise the influence of a pagan god in the Celestial Empire. Triumphant Russia would overawe the earth.

Whatever the result may be of the present war, a large part of the commercial world is convinced that it is to mark the beginning of the emergence of the Mongolian people, and that their advent into the arena of nations will compel a readjustment of the political and industrial affairs of mankind. Every steamer to the Orient carries adventurous and astute pioneers of trade. American railway magnates with letters of introduction to the grantors of concessions are now registered in the hotels of the Far East. A month ago an American mining engineer of the highest attainments arrived in China on a secret mission for an association of big syndicates. He has a staff with him and, while not free to divulge the scope of his operations, confesses his belief that within ten years capital in all the centres of America and Europe will be involved in the mineral exploitation of Eastern Asia. The advance guard of commercial leaders journeying to the Orient includes some of the shrewdest men in the business world. Some American houses have sent their managers, and even members of the firm itself. "At the conclusion of this war," said one of the men, "it is my belief that China will be the scene of a tremendous business development." He added that while, in his judgment, that country would afford unprecedented opportunity for individual enterprise, Japan was destined as a nation to get the supreme benefit out of the Oriental awakening.

"How long have you been in the Far East?" asked John Fowler, American consul at Chefoo.

"Just a week," was the reply.

"You know more about it now," observed the consul, "than you ever will again, even if you remain eighteen years, as I have. The East is too big, too momentous, to be grasped by any mind."

If the world had annexed another planet with unheard-of resources and peopled by millions of strange inhabitants possessed of unfathomed potentialities, and if all the nations of our own earth were contending for commercial advantage in this new terrestial wonderland, the effect upon the imagination of mankind would be akin to the impression made by the awakening of China upon the minds of Europeans and Americans dwelling on the shores of the Far East. One must come within sound of the roar of the Oriental maelstrom to realize its elemental strength.

Prediction is of dubious value in regard to things Japanese. The events of their national career have taken place with ironical disregard for prophecies repeatedly made. Kipling carved a deft inscription over the fool "that tried to hustle the East." And yet here is the Orient displaying an alertness and precision of military movement that gave a staggering blow to the unprepared West. Contradictions on every hand confront the traveler in Japan. Known as "The Land of Lots of Time," it is not uncommon to see a mass of men and women scrambling on their wooden getas to catch an electric car, when by walking they could board another car immediately following, and bound for the same destination. This is conspicuous at Shinagawa, a station a few miles south of Tokio. By alighting from the railway at Shinagawa, and there continuing the journey by electric cars to the capital, through passengers from Yokohama save a few sen; and as economy is a ruling Japanese virtue, the streams of humanity from the station at that town to the suburban line are constant. The Japanese are fond of travel. Tokio street-cars which carry passengers seven miles for 3 sen (1½ cents) are crowded all day long. Cars succeed one another in virtually one long procession. Despite that fact and the national reputation for indifference to time, especially among the classes that form the bulk of those who change at Shinagawa to save a few pennies, there is scarcely a man, woman, or child making for these cars who does not start on a grotesque run, half stumble and half gallop, their clogs, undesigned for speed,

making a clattering chorus of noises, as if a vast lumber yard has suddenly become endowed with life and was rushing headlong to a saw-mill. . . .

It is a mistake to believe that Japan is civilized, as Anglo-Saxons understand that condition of society. Japan has railroads, telephones, electric cars, and other modern accessories. But Japan has not been modernized by the people. A handful of statesmen dominate Japan. The traveler throughout the little empire would believe, if he did not have the fortune to carry letters to the few elect, that he had arrived in a whole nation of coolies. The very fact that these masses, seemingly a thousand years behind the times, are enthusiastically supporting the civilized aggression of their leaders makes Japan's metamorphosis all the more remarkable.

Americans and Europeans who are inclined to view with unconcern the possibilities of a Mongolian mastery of the East may well reflect upon the myriad revelations disclosed in the evolution of the complex Japanese character. Out of Christian markets Japan imports corrugated iron for the roofs of its new places of worship, yet these are being steadfastly dedicated to the Shinto and Buddhist faith. The most Americanized Japanese takes off his shoes when he returns home and, like his ancestors, eats and sleeps on the floor. Leaving my shoes at the threshold, I was received in stockinged feet in the library of one of Japan's most intelligent officials. He had been educated in Europe and America.

"I must apologize for an utter absence of things European in my home," said he, "and invite you to have a seat on the floor." He explained that a few of his colleagues had one or two rooms in their houses equipped with chairs and tables, but that it was considered very bad form in Japanese society to use such furniture except under the compulsion of state occasions when foreign diplomats were to be entertained. Nor is this concession always made in these formal functions. A room full of guests all attired in conventional evening dress, but with nothing on their feet save their stockings, and everybody kneeling or sitting on the floor, is a common spectacle in the high-class homes of Japan. In a kimono a man does not look hopelessly comic on the floor, but sprawl him in a dress suit and let him flounder through a ceremonious function, with constant and dangerous strain on suspender buttons, and you have the raw material for a poster picture grotesquely in keeping with Japan's incongruous advance.

"Would you not prefer to sit up and take nourishment like a European?" I asked my amiable host.

"Yes, yes," he said, "but you see I do not dare. No Japanese dares do that. That, from the standpoint of my people, would be considered loud and ostentatious. We have chairs and tables in our public offices, but to permit these things, which to the Japanese mind symbolize inartistic haste, to invade the sanctity of our homes, would be regarded as a profanation."

It would, of course, be an absurdly narrow view that would criticise a people for sitting and living on the floor, or even for bumping dignified and thoughtful foreheads on the mats by way of salutation. This Japanese home-life prostration, along the level of their uncivilized ancestors, is cited simply to illustrate the statement that modern Japan is a mass of contradictions. Here is a people still asquat on their rice-straw mats, sending forth an army in the full panoply of modern warfare, equipped to sink ships and slaughter regiments by the most approved methods of Christian conquest.

At the outset of the war Tokio disavowed all intention of empire grabbing. To preserve the integrity of Japan Russia must be kept from descending into Korea, and as that country was powerless to preserve itself, Japan would send a quarter of a million of modern soldiers and an up-to-date fleet to "fight the battle for civilization in the East." It is doubtless true that Japan had no large continental ambitions when it went to war. Neither had the Thirteen Colonies when they fought at Bunker Hill and Yorktown. The love of land is the ruling passion of progressive nations, and no power has advanced as rapidly, or in such desperate need of additional domain, as Japan.

It was understood at Tokio that it was the intention, should Japan drive Russia from Manchuria, to restore that province to the Chinese Empire, and then to withdraw. Sould Russia return to take Manchuria, it was predicted that the European powers and even America would take a hand in an effective protest.

Within twenty days from the firing of the first Japanese shell at Russian gun-

boats Korea was virtually annexed to Japan. It is called an Oriental alliance. Article I provides that the Government of Korea "shall place full confidence in the Imperial Government of Japan, and adopt the advice of the latter in regard to improvements in administration." A country that agrees to take all the advice another nation gives it might just as well call itself a colony. Korea may never be annexed to Japan. That would be a national performance of supererogation.

Of course any kind of association with progressive Japan is a god-send to a country so utterly bereft of power that wandering tigers, in search of supper, not infrequently change the census of Seoul, the capital. Yet this alliance is equally auspicious for Japan. The intrepid sons of the Samurai, shouting their stirring shibboleth "Banzai!" (ten thousand years) have set a quarter of a million pairs of feet on the Asiatic mainland. The Sunrise Kingdom is moving with the sun. It is doubtless building greater than it realizes—for Japan, for Asia, and for the world.—*Booklover's Magazine.*

THE WAY TO HAPPINESS.

REV. THOMAS B. GREGORY.

EVERY human being is trying to be happy. From the beggar to the millionaire every one of us knows the meaning of the poet's line: "O, happiness! our being's end and aim." Now what is happiness? There are various answers to the question, but when put to the final test only one of them is able to stand, and here it is—happiness is peace with one's own self. You may be at war with your neighbors and still be happy, but happy you cannot be if you are at war with yourself. Peace—peace with yourself—is the only real happiness. And how is this great thing to be reached? Wishing to be happy, how are we to make the wish a reality? It is an important question—the most important in the world—and, because this is so, it has been studied from many angles and answered in many ways.

Some have tried to find happiness along the way of Ambition. In power, dominion and glory these would be supremely blest. Caesar tried that way, and, in the prime of his manhood, ran up against an assassin's dagger. Hannibal tried it, and wound up by committing suicide. Napoleon tried it, and died broken-hearted and miserable on a lonely rock in the sea.

And there is the way of Beauty—a way that was tried by Cleopatra and Nell Gwynne, by Alcibiades and Abelard, as well as a host of others of less fame, but history tells us that to all of them it was in the end the way of bitter disappointment.

A very noble way would seem to be that of Self-Culture—the development of the intellect, the acquisition of knowledge, the gratification of the art sense, and yet the most illustrious individual of all those who have tried this way—the great Goethe—declared, near the close of his long life, that during all of his eighty odd years, he had not had "six weeks" of happiness.

Then there is the way of Wealth—the broad, straight way, which from the earliest times has been crowded. But from old King Croesus down to Andrew Carnegie the verdict is the same, "Wealth does not satisfy." Croesus' millions could not save himself a troubled life and a miserable death; and the Iron Master's wealth seems to be pressing down on him a terrible weight, and he is unloading himself of it as fast as he can. Fame, beauty, knowledge, riches! They all fail us. Sooner or later we learn that the happiness we seek is not to be found in them. We grasp the imagined prize and it turns to ashes in our grasp. Fame? The more you have of it the greater becomes your loneliness. Beauty? It is a "rainbow's form, evanishing amid the storm." Knowledge? "Behold, we know not anything." Wealth? Go see the pampered favorites in their splendid unrest.

Where, then, shall happiness be found? There is but one answer: in the eternal sacrifice of Self. This does not mean that one should deliberately go about it to make himself miserable. It does not mean that one is bound to imitate the authorities of old and dedicate himself to the idea so well set forth in Byron's couplet:

> "Deep in yon cave Honorius long did dwell,
> And hoped to merit heaven by making earth a hell."

Honorius was foolish. Self-sacrifice is not self-torture. Self-sacrifice does not mean that we shall take ourselves away from the world and be wretched, but that

we shall stay with the world and try to make it happy.

To stay in the world—a man among men—and to work for the world's betterment, regardless of the consequences to one's private interests, to fling all thought of self, like a rock, into the deep sea of forgetfulness, to be willing—like the soldier in the battle line, like Father Damin among the lepers, like Paul at Rome, like the Nazarene on the cross—to die for others, this is the true self-sacrifice and the true happiness.

The happiest man in the world to day is the man who has the most of this spirit, who, to the fullest extent of his power, is joyfully giving himself body, mind, soul, to the cause of humanity—to mother, father, wife, children, neighbors, everybody; who thinks of self last, if at all, and who finds his happiness in the happiness he is able to make for those around him.—*Phila. Inquirer.*

WHILE WE MAY.

The hands are such dear hands—
They are so full, they turn so oft,
  At our demands:
So often they reach out,
With trifles scarcely thought about:
  So many times they do
  So many things for me, for you—
  If their fond wills mistake
  We may well bend, not break,
They are such fond, frail lips
That speak to us! Pray, if love strips
Them of discretion, many times, [crimes
Or if they speak too slow, or quick, such
We may pass by; for we may see [be
Days not far off, when these small words may
  Held not as slow or quick,
Or out of place, but dear—
Because the lips that spoke are no more here.

They are such dear, familiar feet that go
Along the path with ours—feet fast or slow,
  But trying to keep pace.
If they mistake,
Or tread upon some flower that we would take
  Upon our breast,
Or bruise some reed,
Or crush poor hope until it bleed,
We may be mute,
Not turning quickly to impute
Grave fault, for they and we
Have such a little way to go—can be
Together such a little while along the way—
We will be patient while we may.

So many little faults we find!
We see them; for not blind
Is love. We see them; but if you and I
Perhaps remember them, some bye and bye
They will not be
Faults then, grave faults, to you and me;
But just odd ways, mistakes or even less,
Remembrances to bless.
Days change so many things—yes, hours!
We see so differently in suns and showers!
Mistaken words to-night
May be so cherished by to-morrow's light!
We will be patient, for we know
There's such a little way to go.

COALS OF FIRE.

FARMER DAWSON kept missing his corn. Every night it was taken from his crib, although the door was well secured with lock and key.

"It's that lazy Tom Slocum," he exclaimed one morning after missing more than usual. "I've suspected him all the time, and I won't bear it any longer."

"What makes you think it's Tom?" asked his wife, pouring out the fragrant coffee.

"Because he's the only man around that hasn't any corn—nor anything else for that matter. He spent the summer at the saloons while the neighbors were at work. Now they have plenty and he has nothing—serves him just right, too."

"But his family are suffering," rejoined his wife. "They are sick and in need of food and medicine; should we not help them?"

"No!" growled the farmer; "if he finds his neighbors are going to take care of his family, it will encourage him to spend the next season as he did the last! Better send him to jail and his family to the poor house; and I'm going to do it, too. I've laid a plan to trap him this very night."

"Now, while Tom's reaping the bitter fruits of his folly is it not the very time to help him to a better life?" suggested his wife.

"A little course of law would be the most effective," replied the farmer.

"In this case coals of fire would be better. Try the coals first, William; try the coals first."

Farmer Dawson made no reply, but finished his breakfast and walked out of the house with the decided step of one who has made up his mind, and something is going to be done.

His wife sighed as she went about her work, thinking of the weary, heart-broken mother with her sick and hungry babes around her.

The farmer proceeded to examine his cribs, and after a thorough search found

a hole large enough to admit a man's hands.

"There's the leak," he exclaimed; "I'll fix that," and he went to setting a trap inside.

Next morning he arose earlier than usual, and went out to the cribs. His trap had caught a man—Tom Slocum—the very man he had suspected.

He seemed to take no notice of the thief, but turned aside into the barn, and began heaping the manger with hay—sweet-scented from the summer's harvest field. Then he opened the crib doors and took out the golden ears—the fruits of his honest toil.

All this time he was thinking what to do. Should he try the law or the coals. The law was what the man deserved; but his wife's words kept ringing through his mind. He emptied the corn in the feed-trough, then went around where the man stood with one hand in the trap.

"Hello! neighbor; what are you doing here?" he asked.

Poor Tom answered nothing, but the downcast, guilty face confessed more than words could have done.

Farmer Dawson released the imprisoned hand, and, taking Tom's sack, ordered him to hold it while he filled it with the coveted grain.

"There, Tom, take that," said the farmer, "and after this, when you want corn, come to me and I'll let you have it on trust for work. I need another good, steady hand on my farm, and will give steady work with good wages."

"Oh, sir," replied Tom, quite overcome, "I've been wanting work, but no one would hire me. My family are suffering, and I'm ashamed to beg. But I'll work for this, and every ear I have taken, if you will give me a chance."

"Very well, Tom," said the farmer; "take the corn to the mill, and make things comfortable about the home to-day, and to-morrow we'll begin. But there's one thing we must agree to first."

Tom lifted an inquiring gaze.

"You must let whiskey alone," continued the farmer, "you must promise not to touch a drop."

The tears sprang into Tom's eyes, and his voice trembled with emotion, as he said:

"You are the first man that ever asked me that. There's always enough to say, 'Come, Tom, take a drink,' and I have drunk until I thought there was no use trying to be a better man. But since you care enough to ask me to stop drinking, I'm bound to make the trial; that I will."

Farmer Dawson took Tom to the house and gave him his breakfast while his wife put up a basket of food for the suffering family in the poor man's home.

Tom went to work the next day and the next. In time he came to be an efficient hand on the Dawson place. He stopped drinking and stealing, attended church and Sabbath-school with his family, and became a respectable member of society.

"How changed Tom is from what he once was," remarked the farmer's wife one day.

"Yes," replied the husband, "'twas the coals of fire did it."—*Religious Intelligencer.*

MAKERS OF MEN.

MEN of the first distinction in the country's most honorable activities met in New York recently to celebrate the fiftieth anniversary of the Cooper Institute. Peter Cooper, the founder, was the son of a hatter, and learned the trade of a carriage builder. The education which he received in a country public school was exceedingly meagre, but in the great school of the world of active endeavor his subsequent education was broad and general. From his lack of knowledge he learned of the hardships and difficulties which beset the poor boy or girl in the effort to earn a living or to achieve more than that, to rise to a position of wealth, power and usefulness. He had found the road to these great prizes exceedingly rough and steep, but the wheelwright's apprentice won them all.

By his own hard experience he was inspired with sympathy for poor youths who were by circumstances compelled to struggle along the same rough, stony road that he had trod on his way to success. His sympathy was of such practical sort that out of it grew the great institute which bears his name, and which he endowed generously. He created and maintained it during his lifetime, and thus lived to see the greatly good work it was doing daily for young men and women, by imparting to them that higher commercial, industrial, scientific and

artistic education which poverty had denied to him. He lived to see hosts of pupils go out from the institute fully equipped to do the world's best work, to preach, to teach and to display the genius of the engineer and the architect and artist. He lived to see the graduates of the school he founded take prominent places in all the pursuits which make for careers of honorable usefulness.

Peter Cooper's idea was to make such careers for poor boys and girls, who else would be denied them. To-day "The Cooper Union for the Advancement of Science and Art" has more than 2000 pupils, and upward of 3000 applicants are waiting their turns for admission. One of its most useful and successful utilities is its great night school, numerically the largest in the world, it is said.

Girard's benevolent scheme for the education of poor orphan boys foreran Peter Cooper's broader plan by more than twenty years and was posthumous in its realization, the founder not living to witness the beneficent work it was to do. It was but a few years ago that the scientific and mechanical department was added to the college and enormously increased its previously great usefulness. The institution has been managed in all ways by the trustees with a fine sense of integrity of purpose and act, and with efficacy so great that, we do not doubt, Girard himself would have applauded it.

Subsequently other philanthropists adopted Peter Cooper's design to give "instruction and improvement to the inhabitants of the United States in practical science and art, * * * in social and political science, whereby communities and nations advance in virtue, wealth and power, and finally, in matters which affect the eye, the ear, and the imagination, and furnish a basis of recreation to the working classes." Among those who followed his noble example were the Pratts, of Baltimore and Brooklyn, respectively; Stevens, of Hoboken, and Wagner and Drexel, of Philadelphia. Worthy of honorable mention with them were John Jacob Astor, Joshua Bates and George S. Pepper, who founded the great free libraries of New York, Boston and Philadelphia.

These generous givers were real philanthropists, true lovers of their fellowmen. As builders of men's characters and careers it may well be said of them, considering the full and overflowing measure of the good they did and are doing, that they builded better than they knew. Scarcely one of them could have schemed or even dreamed that the school or library he so beneficently founded would have already helped so great a multitude of youth to such useful and honorable living and doing.

They were good, shrewd, foreseeing men who wrought in charity and wisdom to uplift the manhood of the poor, to smooth and straighten the way for hosts of youth to lives of greater beauty, power and utility than else they ever could have known. If not the greatest, surely not the least of them was Peter Cooper.

PROGRESS IN BACTERIOLOGY.

BY G. M. STERNBERG,

Surgeon General United States Army.

THE minute microscopic plants which we know as bacteria attracted little attention until, in 1863, the French physician, Davaine, demonstrated the fact that a fatal disease of sheep and cattle, known as anthrax, is due to the presence in the blood of rod-shaped bacteria (bacilli), which, when introduced by inoculation into other susceptible animals, reproduce the disease.

Ten years later Obermeier, a German physician, discovered in the blood of persons suffering from the disease known as relapsing fever, slender, spiral filaments, which exhibited active movements. These spiral bacteria (*spirilla*) were proved by experiment to be the cause of the disease in question.

These early discoveries led physicians to suspect that other infectious diseases would be found to be due to microscopic germs of the same class, and investigations were begun, at first by a few, and later by a host of earnest workers.

These investigations were crowned with success as regards many diseases, but all attempts to demonstrate the presence of living germs in the blood or tissues of patients suffering from certain of the infectious diseases have proved unavailing. It is now believed that this failure is due to the fact that such diseases are caused by the presence of germs of another class, and that some of them are much smaller than any known bacteria, and practically invisible under the highest powers of the microscope as at present perfected.

"*A Mile at a Stride.*"—The smallest bacteria require for their demonstration the use of staining chemicals and of the very best microscopes. The bacillus of influenza—grippe—for example, is less than one-fifty-thousandth of an inch in diameter. When magnified two thousand diameters it would

appear about as large as the letter "i" on this printed page; that is, two thousand of these bacilli could be placed side by side across the center of the letter and two thousand end to end through the middle up and down; and two thousand times two thousand would completely cover the surface of the paper occupied by this letter. A man magnified in the same proportion would be nearly two miles high and could step a mile at a single stride.

Notwithstanding their minute size, bacteria, when properly stained, are easily seen under a good microscope, and the most important ones have been photographed with a magnifying power of one thousand diameters or less. These photographs show that the bacteria differ greatly in shape and dimensions, and by the expert many of them are readily recognized by their form alone.

During the twelve years following the discovery of the germ of relapsing fever—1873—numerous important discoveries were made in the field of investigation. The list includes the tubercle bacillus—the germ of pulmonary consumption—discovered by the famous German bacteriologist, Dr. Robert Koch, in 1882; the bacillus of typhoid fever, first observed by Eberth, and independently by Koch, in 1880; the micrococcus of pneumonia, discovered by the present writer in 1880; the diphtheria bacillus, discovered by Löffler in 1883; the cholera germ—"comma bacillus"—discovered by Koch in 1884; the tetanus—lockjaw—bacillus, discovered by Nicolaier, a student in the laboratory of Professor Flügge, of Göttingen, in 1884.

For some years after the date last mentioned, 1884, no important disease germs were discovered, but in the meantime bacteriological laboratories were established in all parts of the civilized world, and numerous enthusiastic students of the earlier investigations entered this field of research.

Numerous questions relating to the germs already discovered and to their mode of action in the production of the various diseases presented themselves for experimental investigation. What were the conditions necessary for the active growth and multiplication of each particular germ, within or without the bodies of susceptible individuals, either of man or of the lower animals? What is the cause of the susceptibility to infection of certain individuals or races and the comparative immunity of others? What chemical agents are available for the destruction of the several known disease germs, and in what proportion must they be used in order to be effective in a given time? What is the vital resistance of each germ to heat, to electricity, to sunlight, to drying, and so forth? What modifications do these germs undergo as regards their power to produce disease as a result of their cultivation in artificial media—the nutritive substances in which forms of microscopic life are grown for study—or transmission through the bodies of lower animals? Upon what does this disease-producing power depend? What is the nature of the poisonous substances produced as a result of the vital activity of some of these germs? What are the provisions of nature for defending man and lower animals from invasion by disease germs?

It is evident that the answers to all these questions have great practical importance, and all have been the subject of numerous pains-taking researches, which in many particulars have led to definite and satisfactory results.

We now have ample data with reference, among other things, to the comparative value of various agents for the destruction of these germs, external to the bodies of living animals, to the conditions governing their growth in various artificial media, to the modifications produced by transmission through various animals and the susceptibility to infection of different species of animals.

The French physician, Toussaint, and the distinguished French chemist, Pasteur, were pioneers in the field of investigation relating to "protective inoculations," and in their earlier researches demonstrated the fact that susceptible animals may be protected from the fatal results of inoculations with certain disease germs by previous inoculations with "attenuated" or modified varieties of the same germ.

Space will not permit me to dwell upon the methods of accomplishing this, but I must refer to the subject, since much of the progress in bacteriology during recent years has resulted from investigations relating to productive inoculations and the efforts to explain the immunity following such inoculations.

Investigations of this kind led to the discovery of the antitoxin of diphtheria, which is now extensively used in all civilized countries, and has been the means of saving thousands of lives. It is hoped that similar specifics may be obtained for other infectious diseases. Already a considerable degree of success has been attained in this direction.

What We Have Learned.—So far as man is concerned, no important disease germ was discovered after the year 1884 until the year 1892. In this year Pfeiffer, of Berlin, discovered the bacillus of influenza, already referred to as one of the smallest known bacteria.

In 1894, the distinguished Japanese bacteriologist, Kitazato, discovered the bacillus of bubonic plague; in 1898, Shiga, another Japanese, discovered the bacillus of tropical dysentery, which has since been proved, by two American investigators, Duval and Bassett, to be the usual cause of the very fatal summer diarrhœa of infants.

I have thus far said nothing about the disease germs specific for lower animals, except to mention the anthrax bacillus as the first disease germ discovered. But there has been great activity in the study of in-

fectious diseases of the lower animals. We now know thoroughly well the germs of anthrax, of fowl cholera, of glanders, of hog cholera, of swine plague, and of various other diseases of domesticated and wild animals; and this knowledge has been the basis of preventive measures which have saved millions of dollars to the agricultur ists of our country.

The farmer has also directly benefited by other bacteriological investigations, which have been prosecuted in his interest and in that of science with great zeal and success.

It is now generally known that the disease germs of which I have been speaking constitute but a small proportion of the species of bacteria, and that the greater number are not only harmless but beneficent as regards their relation to man and his interests. Indeed, they play an essential part in the economy of nature, and without them the continued existence of higher plants and animals upon our planet would be impossible.

The principal function of the bacteria as a class is to decompose dead animal and vegetable tissues, thus returning to the atmosphere and to the soil the elements and simple combinations of elementary substances which are necessary for the nutrition and growth of higher plants. Evidently, if these elementary substances were stored up in the tissues of plants and animals without any provisions for returning them to the soil or to the air, the surface of the earth would soon become encumbered with dead plants and animals, and the material for nourishing successive generations would become exhausted. But through the agency of these minute plants—the bacteria—dead plants and animals soon undergo decomposition, and are thus made available for the nutrition of other plants, which in their turn serve as food for other animals.

Unfortunately, certain bacteria have acquired the power of invading the tissues of living plants, just as certain others invade the bodies of living animals, where they produce the various infectious diseases already referred to. The infectious plant diseases due to bacteria have received considerable attention during the past few years, and have been the subject of special study to Dr. Erwin F. Smith of the United States Department of Agriculture.

Bacteria on the Farm.—Although not so numerous or so destructive to field and garden crops as are certain parasitic fungi and various insects, they are nevertheless of considerable importance from an economic point of view. The list includes the bacillus of "pear blight," a bacillus which causes "wilt" in cucumbers and melons, a bacillus which causes "brown rot" in cruciferous plants, such as the cabbage and turnip, and a bacillus that invades the leaves of the tomato, the egg-plant and the Irish potato.

But there are other bacteria which have still greater interest for the farmer, and which he must learn to regard as among his most efficient allies in preserving the fertility of the soil. Nitrogen, a gas which constitutes nearly four-fifths of the atmosphere, is an essential element of plant food, but it cannot be utilized directly, and it is mainly through the agency of bacteria that nature restores this element to the soil in combinations suitable for plant assimilation.

This is done partly by the bacteria already referred to, which cause the decomposition of complex nitrogenous substances constituting the tissues of plants and animals, and partly by bacteria which are able to fix the nitrogen of the atmosphere by causing it to combine with other elements to form plant food, or perhaps by directly assimilating it for their own use.

Again it has been demonstrated that certain parasitic bacteria which grow in masses upon the roots of clover and other leguminous plants are able to fix the nitrogen of the air, and in some way make it available for the use of these plants. Farmers have long known the fertilizing value of a crop of clover upon soil exhausted by other crops. This is chiefly due to the restoration of nitrogen through the agency of bacteria attached to the clover roots.

This is a very brief and incomplete outline of the progress of bacteriology as regards soil bacteria. Another phase of the subject concerns the bacteria which have been shown to be useful, and those which are injurious, in the preparation of dairy products.

The souring of milk and its coagulation result from the development of certain acid-forming bacteria, and especially of one well-known species—the lactic acid bacillus. Every one knows now that milk which has been completely sterilized can be kept indefinitely without turning sour or forming a coagulated mass.

Some bacteria cause milk to undergo changes which result in the development in it of a bad taste or a disagreeable odor; several species cause it to become thick and glutinous; some give it a blue, red or yellow color. Of course all such milk is unfit for food, as is also milk from tuberculous cows. The typhoid bacillus, the cholera bacillus, the bacillus of dysentery—and infantile diarrhœa—and various other disease-producing bacteria are able to multiply rapidly in milk, and it has been demonstrated that these diseases are, not infrequently, contracted as a result of the use of such contaminated milk—usually contaminated by the addition of impure water.

But not all bacteria are prejudicial to the interests of the dairyman. Certain species are essential for the production of various kinds of cheese and for the agreeable flavor of good butter. The disagreeable taste and odor of rancid butter and of "cheesy" butter are due to the presence of other species. Finally, I would say that while wonderful progress has been made in our knowledge

of bacteria during the past thirty years—progress which has increased in arithmetical if not in geometrical proportion since the early researches of Pasteur and Koch and other pioneers in this field—many questions remain to be solved, and new problems are presenting themselves almost daily.

These are being subjected to investigation in bacteriological laboratories all over the world by men of scientific tastes and training, and as a result of their zealous efforts there will, no doubt, be continued progress for many years to come in our knowledge of this interesting and important class of microscopic plants.—*Youth's Companion.*

UNITED STATES BUILDING.

THE United States Government building at the World's Fair occupies an elevated site just south of the main picture of the Exposition. The great central dome of the Government building is visible from the very center of the Fair, looking across the picturesque sunken garden that lies between the Palaces of Mines and Metallurgy and Liberal Arts.

The hill slope in front of the Government building is terraced with broad stairways almost completely covering the slope. The building is 800 feet long by 250 feet wide and is the largest structure ever provided at an exposition by the federal government. It is distinguished from all the other large buildings at the Exposition by the steel truss construction, the entire roof being supported by steel arches, forming a splendid domed ceiling. In this building are installed the exhibits of all the executive departments of the government. The building is a vast storehouse of an endless variety of treasures. Precious documents are here, relics of famous statesmen and soldiers, carefully preserved through generations. Each governmental department has installed an exhibit showing its official character and mode of operation.

Entering the Government building from the eastern end, the visitor sees at his left a railroad postoffice car. This is not a mere coach standing idle, but is one of the most improved mail cars, in which men attached to the United States railway mail service are actively engaged in "throwing" the mails. Here you will see the postal clerks at work, just as they work while speeding along a railroad track. A curious collection of old time relics from the postoffice museum at Washington illustrates as no verbal description can do the crude beginnings of the postal system. One of these relics is an old fashioned stage-coach that once carried United States mails through a portion of the Louisiana purchase territory. President Roosevelt, who once inspected it, examined with a rough rider's interest the bullet holes which stage robbers and mountain brigands shot through its stiff leather curtains. Generals Sherman and Sheridan rode in this old coach during the strenuous days of frontier life. Among the collection of documents showing the primitive postal methods in vogue in the early days is to be seen the old book of accounts kept by the first postmaster general, Benjamin Franklin, all written by hand. There is a rare collection of stamps, including ancient Filipino, Porto Rican and Cuban stamps. The postoffice department's exhibit occupies 12,469 square feet.

Across the aisle, at the right, is the exhibit of the new Department of Commerce and Labor, occupying 1,966 square feet. This exhibit shows what the new executive department stands for and what it is accomplishing. Mr. Carroll D. Wright, United States Commissioner of Labor, had charge of the preparation of the exhibit. Charts arranged by him, showing the rapid growth of the nation in agriculture, arts, manufacture, population, etc., are of special interest to sociologists and all students of the labor problem. The Census Bureau exhibit is made in this section. It shows the tabulating machines used in compiling the census reports. The Lighthouse Board, also operating under this department, shows the great revolving lenses in lighthouses, with other interesting appliances.

The space in the projecting northwest corner of the building is devoted to the Library of Congress. The edifice which houses this library at Washington is held by many architects to be the most beautiful building in the world. Its interior decorations, by Elmer Ellsworth Garnsey, furnish one of the chief delights of a visit to the national capital. A large model of this splendid building is a feature of the exhibit. The decorative features of the interior are reproduced in their original colors.

The next exhibit on the right hand side of the central aisle is that of the Interior Department, occupying 11,792 square feet. In this large space the visitor finds out so many things of compelling interest that he is loath to leave. The Patent Office exhibit belongs to this section. There are models of many machines that have borne an important part in the development of the nation's industries. The earliest form of every device of human invention, so far as possible, is shown here. For instance, you may see the actual sewing machine that was the first contrivance of its kind ever constructed; it was patented in 1846 by Elias Howe. The first typewriter, patented by C. Thurber in 1842; the model of the first cast-iron plow, patented by Charles Newbold in 1797; the first screw propeller, invented by Robert Hook in 1680; and many other "first" things are to be seen. The model of Abraham Lincoln's celebrated device for lifting steamboats off shoals is shown here. The first harvesting machine, made in the year 150 B. C., is one of the most ancient exhibits at the Exposition.

There is also a model of the first steam engine, made in Egypt in the same year.

Every foot of the 200,000 feet of floor space in Uncle Sam's World's Fair building is occupied by exhibits of surpassing interest, and every phase of the people's welfare is shown.

WHAT DO WE PLANT?

What do we plant when we plant the tree?
We plant the ship, which will cross the sea,
We plant the mast to carry the sails;
We plant the plank to withstand the gales;
The keel, the keelson, the beam and knee—
We plant the ship when we plant the tree.

What do we plant when we plant the tree?
We plant the houses for you and me;
We plant the rafters, the shingles, the floors,
We plant the studding, the laths, the doors,
The beams and siding, all parts that be—
We plant the house when we plant the tree.

What do we plant when we plant the tree?
A thousand things that we daily see;
We plant the spire that out-towers the crag,
We plant the staff for our country's flag,
We plant the shade from the hot sun free—
We plant all these when we plant the tree.

Henry Abbey.

OUR SENSITIVE EARS.

MECHANISM OF THESE WONDERFUL ORGANS.

WHEN a big gun is fired at Fort Hancock, the Government's proving-grounds on Sandy Hook, the officers in charge advise all spectators to stand on their tiptoes, stick their fingers in their ears and open their mouths. On board ship, where conditions are such that one cannot get far away from a thirteen-inch rifle, the more sensitive among the officers and sailors place a cork or chunk of rubber between their teeth when there is about to be a discharge. Men have been known to bleed in the ear from the effects of the concussion caused by a much smaller gun than a thirteen-inch bore. One of the officers at Fort Hancock was asked to explain the philosophy of elevating oneself on the toes, placing fingers in ears and opening the mouth.

"Standing on the toes is like standing on a spring," he replied, "while standing on the heel or full sole of the foot is like standing on a solid. By placing a spring between your person and a violent force the impact is so weakened that you are unlikely to suffer injury. In the firing of heavy ordnance a severe shock may be received from the ground.

"As for the fingers in the ears, that's plain enough. It is simply closing the auditory canal to prevent the ingress of the air which is set in intense vibration by the discharge. Many a careless soldier has had his tympanic membrane destroyed by neglecting to close up his ears, either with his fingers or some foreign substance.

"It is wise to open the mouth, for the reason that to do so tends to equalize the pressure caused by the detonation. With the mouth closed the pressure is on the external side of the tympanic membrane, forcing it inward and splitting it. When the mouth is open this is offset by the same pressure from within, by means of the Eustachian tube.

"Many men in the artillery are minus tympanic membranes, but that wonderful design of nature is not absolutely necessary to hearing. When it is torn the hearing is impaired, certainly, but not destroyed, since the surrounding air then acts directly upon the membranes of the two orifices. Nothing in anatomy is more beautiful than the arrangement of the ear. I have made a study of it since coming here, as I had the misfortune to lose one of my tympanic membranes.

"The inner membrane of the cochlea is lined with elastic fibers, discovered by Corti and bearing his name. They apparently form the terminations of the filaments of the auditory nerve. Helmholtz, the greatest authority on acoustics the world has produced, declared that each one of these fibers is attuned to a special note, and as they are above 3,000 in number there must be over 400 for each octave. The interval from one to another is one-sixty-sixth of a tone. They form a wondrous instrument for reproducing every note that the ear can distinguish. The cochlea may be called an æolian harp of 3,000 strings that move in sympathy to all the sounds of creation.

"Many ears are incapable of hearing very high sounds. Many persons are deaf to the chirping of crickets, and some cannot hear the twittering of sparrows. I do not doubt that there are many sounds so faint that our ears are deaf to them, but they make sweet music for others. You know what paracusis is, I suppose. No? Well, you have it when you cannot hear faint sounds at all when things are still, but hear them at once when

they are accompanied by a great noise. I once read of a woman (an authentic case) who had her servant beat a drum whenever she wanted to listen to anything, for then she could hear very well. There was a man who could not hear except when the bells were ringing. It is an old story that deaf persons hear well when traveling on a railroad, or when rattling over a rough highway in a carriage. The left ear generally hears better than the right. Some say this is owing to the common habit of sleeping on the right side. I have my doubts.

"The ears of the lower animals are incomplete. Do fishes hear? Certainly, although the cavity of the tympanum is entirely wanting, the round and oval orifices being at the top of the head. Look out! Get up on your toes and open your mouth. The mortar on the left is about to be discharged. The wind is with the shell, so you needn't close your ears. There she goes!"—*New York Press.*

"BOOKS UNREAD."

THE venerable Thomas Wentworth Higgison's rhapsody in the *Atlantic* on "Books Unread" must have at least a melancholy interest for all who have books. He mentions an acquaintance, now aged 83, who began to read seriously in 1837, and who is still devouring all literature. Four times has this insatiate reader perused the whole of Gibbon's mighty "Decline and Fall of the Roman Empire." He balks at nothing, and has conquered all those monumental books which "no gentleman's library should be without." It is evident that this sort of regimen is not for the busy workers of the earth, but for the lotos eaters who have infinite leisure, and who might have been christened in accordance with Charles Lamb's plans for the son who existed only in his day-dreams, "Little Nothing-to-do." For the most of us—even those who love to read, and do read wisely and well—there usually remains a large number of books which we are ever planning to read. Year after year men say to themselves that at the first opportunity Goethe's "Faust" shall be inquired into. What manner of wonderful book was it that Bishop Butler wrote—"The Analogy of Religion"—which has held master minds captive for generations? What is the perennial charm of Marcus Aurelius, of Thomas à Kempis, Malory's "Morte d'Arthur"? Why is it that ten thousand books and monographs—a formidable library in itself—have clustered about Dante's "Divine Comedy" in the form of mere comment and exegesis? Wherein are the virtues of Plato and Socrates that they still hold sway over thinkers, and temper the conclusions of modern ethical and philosophical writers.

Frederick Harrison, the English critic, gives the useful advice that a wise education, which, in fact, depends on judicious reading, should leave no great type of thought, no dominant phase of human nature, wholly a blank. He says: "Whether our reading be great or small, so far as it goes, it should be general. If our lives admit of but a short space for reading, all the more reason that, so far as may be, it should remind us of the vast expanse of human thought and the wonderful variety of human nature."

The besetting sin, however, is the dissipation of time and the attention on the waste places, on the ephemeral, the flats and deserts of literature. We hang around the back door when the palace gate stands wide open, admitting to the wonders of the world, with glimpses of heaven. It is vain to urge the ordinary modern, looking for dissipation, to read the best books. "They are such hard reading," is the answer. Emerson said that the library is the true university, and that there should be professors of books. It was a wise word. A professor of books would point out to the most careless of mortals that there are examples of literature which are as light and as absorbing, as full of gaiety and genuine fun as Falstaff. There are books which require no greater effort of attention than a "turn" on the vaudeville stage, and they are classics. Don Quixote has more fun, more jokes, more quips and cranks than all the minstrel shows on earth; they are good ones told with infinite zest and charm; it has more philosophy than a meeting of the Metaphysical Society, with a good deal more sense and wisdom; it has more interesting and stirring adventure than a modern historical novel, and more genuine humor in its first chapter than was ever comprehended in the philosophy of the association of "Jokesmiths" recently formed in Baltimore.

And so it is all through literature; there

is a piece of permanent literature for every species of writing; Charles Lamb is as amusing and as light as the most worthless and most banal; Scott is as interesting as a dime novel; Goldsmith is as sentimental as a girls' boarding school romance; Heine is wittier than the professional joker; Ruskin is more grandiloquent than any mere tawdry piece of rhetoric; Addison and Steele are easier reading than the most worthless thing in the most popular magazine; Montaigne is as discursive and as irrelevant as the most jaded mind could require; and these and hundreds more stand ready to amuse, to solace and to delight; having the advantage over the trash which we all read, of insight, wit, a knowledge of life and manners, elevation of thought, the broad views of citizens of the world and students of universal human nature.—*Philadelphia Ledger.*

VACCINATION.*

SMALLPOX is the most frightful disease in the history of the world. Up to the beginning of the nineteenth century it is charged by the various authors with having caused from one-tenth to one-half of all the deaths from every cause. Macauley says: "That disease, over which science has achieved a succession of glorious and beneficent victories, was then (in the last years of the seventeenth century) the most terrible of all the ministers of death. The havoc of the plague had been more rapid, but the plague had only visited our shores once or twice within living memory. The smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not stricken, leaving on those whose lives it spared, the hideous traces of its power, turning the babe into a changeling, at which the mother shuddered, and making the eyes and cheeks of the maiden objects of horror to her lover."

The first accurate account of smallpox was written by Rhazes in the ninth century. The disease was prevalent in Europe in the sixth century and subsequently widely spread by the Crusades. Centuries and centuries before the Christian Era, the disease was well known. Over three thousand years ago the Celestials observed that an attack of smallpox gave more or less immunity to the disease, and practiced inoculation by placing pledgets of cotton saturated with smallpox pus into the nasal cavities of young children. In 1717, Lady Mary Worthley Montague, who died in 1762, had her son inoculated in Constantinople by Maitland, and on her return to London in 1721 her daughter was inoculated. In 1721 Maitland experimented on animals. The Prince of Wales and his sister were inoculated by Mead. The practice in America was more or less adopted, but suffering severe blows, occasionally, in unfortunate losses, such as can never be avoided.

Soon afterwards, however, the Bishop of Worcester recommended it from the pulpit, establishing houses for inoculation. This made it popular again. In Germany it was favored, and in France also. In 1751 Robert Sutton inoculated 5,000 persons without a fatal loss. This practice was continued into the nineteenth century, and many persons are living to-day who were similarly treated with smallpox pus. England prohibited the practice in 1841, but it is not uncommon to meet people of Irish birth who were inoculated before that time.

When epidemic smallpox attacks unprotected persons nearly all under five years old and over sixty die. The lowest mortality average is between five and ten years of age, the total average is about 58 per cent. 80 per cent. of all deaths from smallpox happen to children under five years of age. However, children under five years protected with cowpox show a less mortality when attacked by smallpox than protected persons at any other age.

Vaccination is the greatest and most wonderful discovery the world has ever known in the history of medicine. All nations hailed it with demonstrations of joy and gladness. In Russia the Empress gave the first child vaccinated the name "Vaccinoff," and made its education a public charge. The beneficent result of vaccination can only be doubted by persons with extremely narrow views, or incompetent to form an opinion of medical experience and facts. For some incomprehensible reason many do not submit to vaccination. Therefore, I shall study with you some of the more interesting data of the subject. For centuries it had been a popular belief among the farmer

* Paper read by Dr. F. U. Ferguson, of Gallitzen, at the Cambria County School Directors' Convention at Ebensburg.

folk of England that cowpox protected against smallpox. It is said that the Duchess of Cleveland, replying to some joker who suggested that she should lose her occupation if she was disfigured with smallpox, said that she was not afraid of the disease, as she had had cowpox.

Edward Jenner, the son of an English clergyman, was born in 1749 at Berkely, in the county of Gloucester, a county celebrated then, as now, for its dairies. He early fixed upon medicine for a vocation. After he became a student, the confident assertion of a young country woman that, having had cowpox, she was proof against smallpox, made an impression on his mind that was lasting. In 1775 he returned from London to practice his profession. On renewing his acquaintance with the dairy people, their belief in an antagonism between cowpox and smallpox was again brought to his notice. He began to look into the matter. By degrees, as evidence accumulated, he became convinced that there was something in it. He conceived that a disorder that could be conveyed from a cow to the human system by rare chance in milking might be more surely communicated by methodical operation, that it might also be carried from person to person without losing its protective power, and that in this way the whole human family being made secure against smallpox, that loathsome disease would be driven out of the world from lack of living accommodations. In this style, after seven years (1780) we find Jenner talking to his friends. The scarcity at that time of the cowpox, however, prevented him from bringing his magnificent and inpiring thought to the touchstone of actual experiment.

On the fourteenth of May, 1796, more than a quarter of a century after his thoughts were first turned that way, Jenner made his first vaccination. The subject was a lad of eight years, named James Phipps. Several weeks afterwards the boy was inoculated with smallpox matter. and as Jenner had predicted, no harmful results followed. Two years passed away before he was able to repeat the experiment, owing to the disappearance of cowpox from the dairies. Having at length made himself certain of the truth and importance of his discovery, he published a pamphlet entitled, "An Inquiry into the Causes and Effects of the Variolose Vaccinal," and sent it out to the profession. In less than a year from the first public announcement of the discovery, seventy of the most distinguished physicians of London signed a declaration of their entire confidence in it. The anniversary of his birth and that of first vaccination were for many years celebrated in Germany as feast days.

When smallpox is inoculated into a cow it produces a disease like cowpox. Also horse "scratches" or "grease-heels" inoculated into the cow produce a disease similar, but it is not definitely known what the exact relation of these diseases is to each other. For a period of about forty years the humanized vaccine lymph was used exclusively, then it seems to have lost its power, but returning again to the cowpox lymph, the results were about as in the beginning. Humanized lymph was used extensively until recent years.

At the present time the cow lymph is used exclusively, and the mortality is practically nil. When death does occur the subject has usually been afflicted with some complicating disease. Every person should be vaccinated at least twice, and during epidemics, every five years or more frequently.

WHAT ARE DREAMS?

CHARLES M'ILVAINE.

DREAMS are of all sorts—some so pleasant that we like to think about them; some so unpleasant that we try to forget them. To understand what they are we must understand something about thought. The most trifling thought we have when we are awake has more effect upon our actions than we think. Everything we do grows from a will to do it. We are not always able to recall the will that gives us a thought, or the thought that causes us to do something. If our toes are tramped on, our nerves carry a message to the brain. In the brain we will to pull the toe away and make the tongue say "Ouch!" maybe more. The time it takes to think to do these things has been measured. It takes but a very small part of the tick of a watch. We often jump out of bed in the mornings, or get up from a nap, and are not able to remember what will gave the thought of rising, or what thought made us rise. Yet we had the will to get up and the thought to do it.

No one knows exactly what sleep is, or what causes it. If every part of our bodies was perfectly or sound asleep, we could not be wakened. We know, no matter how much asleep we are, that we breathe, that our hearts beat, that our hair grows, and that many other parts of our bodies are awake and at work. Our nerves, the watchmen of our bodies, are always on guard. A noise startles the nerves in our ears, and wakens us; a smoke irritates the nerves of our nose and lungs, and they tell us of danger; a very sound sleep may be disturbed by the tickling of a feather.

If we try hard to watch ourselves going to sleep, we shall find that first comes drowsiness, then a helter-skelter running about of our thoughts; then, puzzle as we may, we cannot remember any more about it. Of one thing we are sure, as we go to sleep, our will lets go of our thoughts; they do as they please. The same thing happens just as we waken, excepting that, as we waken, our thoughts are still loose, and it takes our will a little time to get hold of them and hold them in order. Now it is when we are passing to sleep, or are not sound asleep, or are passing out of sleep, that we dream. We never dream during sound sleep. It is easy, knowing this, to understand that dreams occur when thoughts are running loose without any will to guide them, or, in other words, that dreams are all sorts of thoughts over which we have no control. Common sense laughs when we awake, to remember what we thought and said and did in a dream.

The time it takes to dream what seems to be a long dream is really very short—not over from half a minute to two minutes and a half. Many trials have been made of this, and the time noted. Persons have been kept from sleeping for a long while, then allowed to sleep for half a minute, a minute, two minutes, and wakened to tell what they dreamed. One man, on a railroad train, dreamed that he had planned a murder, committed it, was caught, imprisoned, tried, and hung, all while he was passing through a tunnel which took the train he was on one minute.

Dreams are romps of thought, without guide and without meaning. Never let a dream have any effect upon you, especially an unpleasant one. Every moment spent in worry over what we cannot help is lost time.—*S. S. Times.*

GREAT BIBLE CENTENNIAL.

REV. JAMES JOHNSTON.

ON the 6th of March, 1904, the British and Foreign Bible Society commemorated the centenary of its inauguration. At the society's special service in St. Paul's Cathedral, London, the Archbishop of Canterbury preached. Thus from the acorn dropped in the mountainous soil of Wales this noble society has developed into the strong oak whose spreading, leafy branches give rest and shade to thousands of souls in far-off lands. Put into prose form, the society dates its origin from the circumstance that a little Welsh girl, having kept her earnings for some years to buy a Bible, and walking twenty-five miles to procure one, found the scanty supply sold out. This incident moved the celebrated Rev. Thomas Charles, of Bala, to plead before evangelical friends in London to establish a Bible Society in Wales, with the result that the world-famous institution came into existence in 1804 for the supply of the Scriptures in every part of the globe. Such was the society's romantic formation.

Pursuing its magnificent propaganda, the Bible for all mankind, the society preached no new doctrine, dogma, or doxy, yet it has remained throughout its record the friend of every Protestant communion and the buttress of all the principal English missionary auxiliaries. Without its aid the latter would have been lamentably ineffective and shorn of their evangelistic activities. In addition, the Society has had its own messengers of the Word of Life, who have carried to the ends of the earth the Bible at the cheapest possible cost of sale, and likewise free from any note or comment of theologian or sect.

At the beginning of the last century the Bible was current in about forty different languages; to-day some part of it has been issued in over four hundred, including every great vernacular of the world. Its list of versions includes the names of three hundred and seventy distinct forms of speech, eight new ones — Fioti, Kikuyu, Shambala, Karonga, Nogogu, Laevo, Baffin's Land Eskimo, and Madurese—being added in 1902-03. The cost of translation has been necessarily great, whether conducted on the Society's premises or abroad by individuals or

groups of missionaries. For example, the Malagasi Bible, apart from printing, cost over three thousand pounds,—a sum, however, small compared with the cost incurred in the early years of the Society's operations. Grants to Dr. Morrison and his assistants for the first Chinese Bible amounted to ten thousand pounds, and to Dr. William Cary and his associates, for the production of the Serampore version, more than thirty thousand pounds. In contrast to this, the revision of the Lifu Bible for the Loyalty Islands, requiring three years to accomplish, and involving 52,310 corrections, incurred a few pounds only, for the natives assisting the European revisers.

The task of mastering the speech of remote tribes has naturally been one of herculean difficulty. The Lolo language on the upper Congo is spoken by ten millions of people; Galla is the tongue of a fierce tribe of about six millions in Abyssinia; and Fanti is spoken by two millions on the Cape Coast. It is hard to conceive of tracts of country where fresh languages or dialects are spoken every ten or fifteen miles. A century ago the Scriptures were printed in three principal African languages,—Coptic, Ethiopic, and Arabic,—whereas there are now printed by the Society copies of the Bible in eighty languages indigenous to Africa, besides those required by Asiatics and Europeans who have taken up their abode in the Dark Continent. Diversities of tongues in one country only is an amazing revelation. The Society's agents sell the Bible in fifty-three languages in the Russian Empire, in twenty-eight languages in Burmah, in over thirty in South Malaysia, in fifty-three in the Egyptian agency, and in Cape Town alone the Bible woman sold copies in fourteen different tongues.

Record figures are given of the extent of its product, which, since its foundation, reaches the number of one hundred and eight million copies. In 1902, it issued nearly six million copies, complete or in part,—a total which surpasses any previous year by 870,000 issues. The Society has 850 colporteurs, supported by 650 native Christian Bible women in the East, associated with about fifty different missionary organizations. And still, strange as it may seem, millions of the human race speak languages into which not a single Gospel has been translated. In the track of the missionary plow the Bible colporteur follows to supply the printed Word. Great fields in the Celestial Empire, South America, Central Asia, the Pacific, and Central Africa, alike await the messengers of the divine revelation. Unhappily, even when the Bible is supplied in these and kindred regions, the people are unable to read a single word, and hence the colporteurs frequently become teachers in order to open the treasures of life to those who wander in darkness. Appalling is it to contemplate that out of the 140,000,000 of women in India 139,000,000 can neither read nor write. With the spread of education in foreign lands millions of new readers will arise, and never, it is said, was there so great a demand for the Bible as there is to-day. In every Christian land the prayer will be offered that the word of the Lord may "run and be glorified."—*S. S. Times.*

GENERAL ARMSTRONG'S COURAGE.

IN the ten years which have elapsed since the death of General Armstrong there has grown up to young manhood and womanhood a generation to whom, although his name and work may be familiar, the inspiration of his personality is unknown. To all such the story of his life, which has just been published, must bear a thrilling message; for to read it is to enter the presence of a man of magnificent courage and indomitable faith.

A general at twenty-six, with a brilliant war record behind him, the quality of his courage had been already proved; but the future was to test it far more severely. The responsibility of the experiment at Hampton was a terrible one, presenting problems which no nation had been called to solve before. He had to face isolation, ignorance, indifference, misrepresentation. At the best, after he had conquered prejudice and won friends for the work, he had to spend half his time begging for money, for he had to raise by personal efforts from fifty thousand to eighty thousand dollars annually for the current expenses. Yet in all that time and under all his burdens no one ever saw him discouraged. He used to explain his position by a story which he called his "rule of conduct."

"Once there was an old darkey who

could not be dissuaded from working at an empty possum-hole. 'Ain't no possum in dat hole? Dey's jest *got* to be, 'cause dey's nuffin in de house fer supper.'" Or, as he used to tell his children, "Once there was a woodchuck. Now woodchucks can't climb trees. Well, this woodchuck was chased by a dog and came to a tree. He knew that if he could get up this tree the dog could not catch him. Now woodchucks can't climb trees, but this one had to, so he did."

He had to, so he did, was the motto of his life. "Doing what can't be done is the glory of living!" he once exclaimed.

"For most people," as one of his friends said, "an obstacle is something in the way to stop one from going on, but for General Armstrong it merely meant something to climb over; and if he could not climb all the way over, he would get up as high as possible and then *crow!*"

In all the book there is no finer picture than that of the evening when he spoke at a little suburban church far down a side street. It was a bitter winter night, with a driving storm of sleet, and when it was time for the meeting to begin the audience consisted of a score or so of humble people who evidently enough had no means to contribute, and a dozen restless boys kicking their heels in the front pew. Then "in the midst of the bleakness and emptiness rose the worn, gaunt soldier, as bravely and gladly as if a multitude were hanging upon his words. His deep-sunk eyes looked out beyond the bleakness of the scene into the world of his ideals, and the cold little place was aglow with the fire that was in him."

Dangers, hardships, obstacles—upon these he had "tried his soul's stuff" all his life, but here was another and more difficult test. Triumphant in faith and unflinching in duty, he could meet even defeat and failure in the spirit of victory. —*Youth's Companion.*

Thou wilt not leave us in the dust:
Thou madest man, he knows not why;
He thinks he was not made to die;
And Thou hast made him: Thou art just.

Thou seemest human and divine,
The highest, holiest manhood, Thou:
Our wills are ours, we know not how;
Our wills are ours, to make them Thine.

Tennyson.

WHY THE COUNTRY BOY WINS.

BY CHAS. S. WILLIAMS.

WHY does the boy from the district school outstrip his village cousin in the high school and college? There can be little doubt that he does. Many of our village high schools depend upon the district school graduates for scholarship, for school spirit, and largely for attendance. In a large majority of cases the highest honors at graduation fall to the boy who learned his arithmetic and reading in the district school. Green in appearance, using poor grammar, rarely knowing how to march in step, ridiculed by the stylish youth from village homes, the country pupils soon demonstrate their ability to leave behind those who would scorn them.

Many reasons are given to explain this. Pupils from the country appreciate their advantages more; they have not so much outside of school to engage their attention; they learn on the farm the knack of doing things. These explain in part, but the district school should not be left entirely out of consideration. Are the district schools better than the village graded schools? Are the teachers better prepared or better paid? Is the instruction superior? Have the district schools better facilities for doing efficient work? There can be but one answer to all of these questions. It is a wonder that the district school teacher with twenty or thirty classes per day can accomplish anything of much account. The boy in the district school must do most of the work himself. With a hint here and there, he ploughs his own way through arithmetic and geography, through reading and spelling. His recitations are mostly examinations with very little developing or explaining. He brings to the high school an inferior knowledge of elementary subjects, but he also brings what counts for much more, the ability to do things for himself. He knows something of research, for he has gotten most of what he knows unaided.

The boy in the village school too often receives his portion in homeopathic doses, very systematically administered, thoroughly assimilated, and frequently repeated. The bright pupil fails to get a taste of personal conquest. He looks to his teacher to furnish the material carefully developed and predigested. He sel-

dom catches the spirit of research and often loses his native curiosity. Passivity and receptivity become his fixed attitude.

To overcome these faults, supervisors and grade teachers must learn to look less to subject-matter covered and more to mental training. There must be more suggestion, less demonstration; more investigation, less drill upon non-essentials; more concreteness, less idealizing; more leading, less coaxing and compelling; more study into nature, less study about nature; more training of the motor faculties, less appeal to memory. Such active methods will produce more active minds, and, coupled with a fair knowledge of subject-matter, pupils who have had such school advantages will have the habit of helping themselves.--*Educational Gazette.*

EDITORIAL DEPARTMENT.

THE SCHOOL JOURNAL.

LANCASTER, JUNE, 1904.

N. C. SCHAEFFER. - - - - - J. P. McCASKEY.

More people drown in the glass than in the sea.

The bird is the balance in nature, keeping under the insect life, that fruit and grain may ripen and animals and men may live. Do not kill it or disturb its nest.

Ye may be aye sticking in a tree, Jock; it will be growing when ye're sleeping.—*Scotch Farmer.*

The best of men that ever wore earth about him was a sufferer, a soft, meek, patient, humble, tranquil spirit; the first true gentleman that ever breathed.—*Decker.*

I will not kill or hurt any living creature needlessly; nor destroy any beautiful thing, but will strive to comfort all gentle life, and guard and perfect all natural beauty on earth.—*John Ruskin.*

I expect to pass through this world but once. Any good thing, therefore, that I can do, or any kindness that I can show to a fellow-creature, let me do it now. Let me not defer or neglect it, for I shall not pass this way again. —*Edward Courtney*: Engraved also upon his tomb.

THE Fifty-second Volume of *The School Journal* ends with the present (June) number. With July begins a new volume. We shall continue *The Journal* to School Directors upon our list who are now receiving it, except when requested not to do so, this being the wish of the large majority of our readers, as it causes no break in their subscription. Will the Secretary please notify us promptly of any change in the membership of his Board, that each member may receive his copy promptly? Our subscriptions begin quarterly with July, October, January and April, but the beginning of the volume is, of course, the best time to subscribe; especially is this true in the case of members of School Boards, the financial year of the School District and of the School Department and the volume of *The School Journal* being the same. Directors who read *The Journal* know it to be worth much more than it costs to the district. This subscription is the only direct return which the Director can receive in recognition of his service to the public schools; and many intelligent men who have made trial of *The Journal* assure us it brings back more for the money in the way of improvement in the schools of the district than any like sum expended in any other direction possible to the School Board. We are glad to know that so many good men believe this to be true. Twelve numbers are issued during the year. The Fifty-second Volume contains six hundred double-column pages of large size, presenting a very large amount of matter valuable to directors and teachers as well as to the general reader. The new volume (53rd) will, we think, be worth the cost to any subscriber. The premium picture, "Dido Building Carthage," a masterpiece by Turner, the famous English landscape artist of the last century, will be sent at once on receipt of order for subscription.

THE forty-third meeting of the National Educational Association will be held in connection with the National Exposition at St. Louis from June 28th to July 1st. The "Inside Hotel" will be headquarters and it will be well to engage rooms at an early date. The meeting of the Pennsylvania Educational Association which would have been held in July has been deferred until next year, giving full "right of way" to the great Exposition at St. Louis.

WELCOME home! to friends Houck and Corson, and the hundreds of good people who were delegates from America to the International Sunday-school Convention recently held at Jerusalem. The Grosser Kurfurst bearing them arrived at New York, May 19th. They were expected on the 18th but a wireless message reported the ship seventeen hours late with

all on board well. The ship was chartered for seventy-one days and carried eight hundred passengers. Visits were made to many points of interest in the Holy Land and in the Mediterranean. We have had by mail, from Dr. Houck, interesting souvenirs of the trip from Beirut, Jerusalem and Rome. The convention was held in Jerusalem April 18th and 20th. Tents were pitched just outside the Damascus Gate. It was a historic occasion. The "ends of the world" had come to Jerusalem.

A letter from Prof. Edward J. Byers, of Ashland College, Ashland, Ohio, March 5, 1904, says: "I have now and am looking upon four of your beautiful and suggestive pictures, namely, Dido Building Carthage, Shakespeare and his Friends, the Baron's Charger, and Christ Blessing Little Children. I do not know how I could spare them from my study." We have added a dozen good subjects to the Lincoln Art Series within the past few weeks which are shown in our new illustrated catalogue, an attractive pamphlet of sixteen pages, for which persons who are interested may address J. P. McCaskey, Lancaster, Pa.

PENNSYLVANIA CHAUTAUQUA.

THE Twelfth Annual Assembly of the Pennsylvania Chautauqua at Mt. Gretna will begin on Friday, July 1st. To those who desire an outing in one of the most healthful localities, Mt. Gretna affords advantages not to be had elsewhere. In addition to the healthfulness of the climate, the grounds are thoroughly sewered in the most sanitary manner, while an abundance of pure water is pumped into a reservoir in the mountain and carried thence throughout the entire grounds. The Inn will be under the management of Mrs. A. B. Scott, who has successfully conducted it for the past several years. Dr. N. C. Schaeffer, State Superintendent of Public Instruction, who is the Chancellor, has prepared a most excellent programme for both instruction and entertainment.

Among the distinguished lecturers and instructors will be Prof. Robert Ellis Thompson, the Rev. Dr. Jeffers, the Rev. Dr. Billheimer, the Rev. Dr. Jacob Fry, the Rev. Dr. Roop, Prof. J. M. Coughlin, Prof. J. N. Chambers, Dr. Isaac Sharpless, President of Haverford College, Prof. Leon Prince, Prof. A. M. Hammers, Dr. S. C. Schmucker, who makes nature study so interesting that all wish to hear him. Dr. Eugene May, of Washington, will deliver several of his interesting and entertaining lectures, while in music and entertainment the programme is most noteworthy. These are but a part of the lecturers who have been secured for the season. The department of domestic science, which includes cooking in its various branches, will be under the direct supervision of Mrs. Sarah Tyson Rorer. who has no superior in her special line; and Hon. Henry Houck, Deputy Superintendent of Public Instruction, who has just returned from his trip to the Holy Land and other foreign countries, will deliver several lectures on his foreign travels. The Chautauqua opens July 1st and closes August 5th, and those who desire to have a pleasant and profitable outing will do well to spend some time here. Mt. Gretna is situated on the Cornwall and Lebanon Railroad, nine miles from Lebanon, 25 miles from Harrisburg and 30 miles from Lancaster. For terms, studies and other information address Prof. E. M. Strickler, corresponding secretary, Millersville, Lancaster Co., Pa.

CHILD LABOR BILL.

THE Chief Factory Inspector, Mr. John Delaney, at a conference of organizations interested in child-labor legislation, held recently at the New Century Club, outlined his proposed labor bill. After saying that the present law is not comprehensive enough, Mr. Delaney added that he was framing a law, which he hoped would be passed by the next Legislature. The principal changes proposed are that the minimum age limit for the employment of children is to be 14 years instead of 13, and that the maximum hours of work for men, women and children are to be reduced from sixty hours per week to fifty-five hours.

He would prohibit the employment of children and women at night in all classes of work, except in glass factories, where the exigencies of production forbid. A rigid physical examination of children entering the laboring class is also proposed. At present there is no examination, and children physically unfit for labor literally work themselves to death.

More than 2000 children have been driven from the factories, workshops and department stores in the last six months since the increase of deputies. In concluding his talk he resented a remark said to have been made by Miss McKnight, President of the Pennsylvania Federation of Clubs. She is quoted as saying that Pennsylvania stands twenty-seventh among the States in the educational advantages offered, and one of the lowest having protective labor laws. Mr. Delaney says that such is not the case, but that this State stands next to New York, Ohio and Massachusetts in adequate laws for the protection of children. "Now I ask, why is it women of Pennsylvania will show the State in a false position? No State in America has done more in an educational way, and none is more willing to afford protection to the children in the employment class," he declared.

Bishop Mackay-Smith earnestly denounced the labor scheme of the glassworkers. "That we should calmly accept the statement that glassworkers cannot be forced to change their working hours and make no effort to educate the thousands of children demanded by such work, is intolerable," said he. "I would rather drink out of a tin cup the rest of my life than use a tumbler if such is the case. While here in Pennsylvania it is not possible to exaggerate the evils of child labor, yet we must not demand too radical changes in the laws at once. Anything that you do to protect the child is fundamental. Like personal registration, the protection of children and their forced education are of the greatest importance to the welfare of Pennsylvania. You are sure of nothing if the children and the purity of the ballot are not protected." He urged that public opinion be enlisted in favor of Mr. Delaney's proposed bill, and that the women's clubs do their portion of the work. "Back up the bill by public opinion," he said, "and with this force we can accomplish our purpose. No one has a stronger regard for public opinion than the working politician."

Representatives from these organizations were in attendance: New Century Club, Mothers' Congress, Children's Aid Society, Society to Protect Children from Cruelty, Child Aid Society, Society for Organized Charity, Women's Christian Temperance Union, College Settlement and Southwark Neighborhood House.

WE HOPE TO KEEP AT IT.

THE Lancaster *New Era*, in a recent issue, has this item of some local interest: "What man in Lancaster pays the most postage in a year? was a question asked incidentally a few days since. At the post-office it is thought to be Dr. J. P. McCaskey, Principal of the Boys' High School, and this for a number of years. We are not surprised to know this, for he is one of the best patrons of the New Era Printing House, in his music books, pictures and other high-grade work. He uses an average of two tons and more of paper stock per month. During the past year the Wickersham Company has printed for him about three hundred and fifty thousand impressions, the Examiner office nearly three hundred thousand, and The New Era probably seven hundred thousand, making a total of over a million and a quarter impressions. This includes the regular monthly issues of *The Pennsylvania School Journal;* more than a hundred thousand copies of his last song book, the "Flag of the Free;" many thousand copies of the Lincoln Art Series, and other good things. These are sent out by freight and express, and through the mails, to all parts of the country."

Our business is to scatter good things broadcast "while we may." Much that we print goes out on a very small margin above cost, and much is given away. But the privilege of putting things of permanent value, things that mean pleasure and profit, into the hands and into the homes of tens of thousands of people, is worth far more than any money return from it. During the past twenty-five years we have sent out two million copies of *The Pennsylvania School Journal*, nearly one-fourth of which has been without cash return in any form to us—and we are glad to have had opportunity to do this. In the matter of music and pictures our opportunities have also been unusual, and we have scattered them by hundreds of thousands—always fairly well content if we could get through the year with a clear balance sheet, though the surplus might be small. Our business is not to accumulate money, but—far better than that—to get work done that is worth the doing, and that to the limit of our ability. The brief but suggestive paragraphs which are carried under our editorial head have been

printed there hundreds of thousands of times. They are better than business notices. Dr. Harbaugh, in whose church Dr. Higbee preached his first sermon, edited *The Guardian* more than fifty years ago. We read it with much interest when a boy, and still see and read a sentence that was printed in each monthly number: "Not a line that, dying, I would wish to blot." This manly sentiment, read so often, caught our boyhood fancy and fixed itself in thought and memory. The old Bible theory of "line upon line, and precept upon precept" we accept more and more the older we grow, as a wise theory of education. Let the "line" and the "precept" be good, the best if possible, and thought and life must both grow better.

DEVOTED TEACHER.

YEARS ago we looked into the face of a devoted woman little conscious of her power, and felt that in her unselfish, earnest life many human souls would be blessed. She was then teaching in Erie county. Later we heard of her as one of the teachers at the West Chester State Normal School. She felt herself called to the South to the help of the colored race, and for many years was one of the leading teachers at the Atlanta Baptist College, Georgia. Within a year she has organized a high school at Brunswick in the same state, of which the Georgia *Baptist* says: "This is a new school for Brunswick and one of great promise. At its head is the well-known and greatly-beloved Miss Carrie Bemus, who taught for years at the Atlanta Baptist College. Associated with Miss Bemus is Prof. H. A. Bleach, who graduated from the college department of Atlanta Baptist College. He has taught successfully at Benedict College and also at a college in Missouri. Miss Ella Smith comes third in the faculty and is one of Spelman's best young ladies, hailing from Washington county in middle Georgia. This school is now in its first year and has enrolled about one hundred students. The daily attendance at present is about seventy. It will surprise nobody to learn that we were specially interested in this school. We could but regret the giving up by Miss Bemus of work at our college in Atlanta, and yet as we witnessed her work in this school and scanned closely the splendid body of young women and men that are already gathered around her, we could but feel that her coming to this new field is of the Lord. It seems also fortunate that Prof. Bleach and Miss Smith have been secured as co-workers with Miss Bemus. Under God we firmly believe that this school is destined to be a potential power for good in this city and adjacent country. The young men and women in this school reminded us very much of Spelman Seminary and the Atlanta Baptist College."

HARRISBURG TRAINING SCHOOL.

THE Civic Club, of Harrisburg, is making a strong effort to have the manual training school to be established in that city made co-educational, and to incorporate in its curriculum a full scheme of domestic science. The manual training department is to be modeled after the Central Manual Training School in Philadelphia, whose principal, Wm. L. Sayre, has assisted the Harrisburg Board of Education in planning this new institution for our Capitol city.

In an address on "Manual Training," in Harrisburg, Professor Sayre said that the manual training school is the nearest approach to a practical school that has yet been made in the educational world. Its results are shown in the demand made by the business and industrial world for its graduates. Continuing, the professor said:

"The establishment of the modern manual training high school was the logical outcome of the trend of educational thought and the practical recognition of the conditions which surround the boy to-day. Among other instruments, labor unions and machinery have killed the apprentice system, and if the boy goes into a manufacturing establishment he is permitted only to master a fractional part of his work, and may spend his life in turning a screw or watching a planing machine.

"In this view of things, and I do not think I have overdrawn the situation, the question comes home to every parent with startling force, 'What shall I do with my boys?' Evidently mere book learning will not do. Never in the history of this country, probably, have there been so many educated, or rather half-educated, idlers as now. It is that kind

of over-education that is turning out what might be called the 'machine class' of men. We are passing through a great industrial change, and through the great weeding-out process now going on the survival of the fittest holds good. The man who will succeed to-day is the man who technically knows his business, who is up to date in modern methods, and who is in touch with the industrial and social conditions of life. In spite of the terrible need of work which weighs upon the masses of men, it remains true that society is filled with only partially trained people. The great lesson to be learned by the boy to-day is the need of some kind of absolute competency—some kind of ultimate superiority.

"The incorporation of tool instruction in the curriculum, as in the manual training schools, is the entering wedge of a movement that is destined to revolutionize school methods. The object is to prepare boys for a practical manhood. The aim of the manual training school is to make its students creators, inventors, men of affairs, men who can guide and direct those agencies which have made our country so great and prosperous."

HOUSE FOR TEACHER.

GOOD school houses are found everywhere throughout Pennsylvania. But where is there a home for the principal, a spacious and attractive and comfortable teacher's house, in connection with the school building? This would be an additional reason why a man of fine scholastic attainments, of culture and power, should come and make his home in an intelligent community, and remain there perhaps for a life-time. No manufactory in any community can match its schools in importance. Get the best foreman and make it to his interest to become a dominating influence, perhaps the strongest and best, in the life of the community. A competent head of a good school is worth hundreds of dollars a month, and a suitable house for him to live in should be a mere bagatelle in the item of salary. If there were thousands of such homes it would mean benefit to our school interests that is simply incalculable. What district will set this good example and point the way to better things, thus retaining, often for a long life of ever-increasing usefulness, the best teachers among the young men of the State in the best work of the State? Is there one such house in Pennsylvania? What school district or what man will buy the first and instal in it a high-grade man as teacher?

SAVING NIAGARA FALLS.

GOVERNOR ODELL, of New York, has vetoed the bill of a soulless corporation that planned to make large profit out of the conversion of the water power of Niagara Falls into electric power. The water of Niagara river was to be turned into sluices above the Falls, and the present diminished supply of water passing over them was to be reduced indefinitely until the grandeur of Niagara would become a memory, and its beauty be changed to rugged ugliness. From all over the country came protests to Governor Odell to save the Falls from the New York law-makers. In his veto message he says:

"I am of the opinion that however much we may discount and deprecate the interference of the sentimental with the practical in life, we cannot get away from the fact that this sentiment is not one of retrogression, but of constant progression in civilized life. There is due to it, therefore, the same consideration which should be given to all practical affairs of life. This seems to me to be a second and fully as important a reason for objection to approval of this measure."

It might be argued, says the Philadelphia *Ledger*, that Niagara Falls as a mere spectacle has a substantial value to set off against the value of the water power. This is an argument which most "practical" men can understand. Niagara, like the Adirondacks, Lake George, the Catskills and the Hudson river, is among the assets of the State of New York that once destroyed never could be reproduced. Yet the Governor does well to base his action distinctly upon the fact that the sentiment of beauty, the appreciation of the grandeur of the poetry of nature, is one of "constant progression in civilized life," and, therefore, to be recognized in civilized legislation as of at least equal importance with those considerations which are called "practical." More and more, indeed, we are learning to recognize that such sentiment is above all things practical, in that it makes for the greater happiness of all and the greater

enjoyment of life. The New York Legislature's disregard of Niagara Falls was a retrogression, and Governor Odell has saved not only the State of New York, but the whole country, from an injury that would have been a national disgrace.

OFFICIAL DEPARTMENT.

DEPARTMEMT OF PUBLIC INSTRUCTION,
HARRISBURG, *June*, 1904.

THE following named gentlemen have been appointed State trustees of Normal Schools:

West Chester—John J. Pinkerton, West Chester; William S. Windle, West Chester.

Millersville—Hon. Milton Heidelbaugh, Lancaster; Andrew F. Frantz, Lancaster.

Kutztown—R. W. Young, M. D., Slatington; Professor Alvin Rupp, Allentown.

East Stroudsburg—George F. Davis, Lansford; W. B. Holmes, Honesdale.

Mansfield—Hon. H. B. Packer, Wellsboro; F. E. Zimmer, Mansfield.

Bloomsburg—Dr. J. J. Brown, Bloomsburg; R. C. Neal, Harrisburg.

Shippensburg—M. G. Hale, Shippensburg; J. M. Hamilton, Shippensburg.

Lock Haven—J. A. Bickford, Lock Haven; Hon. O. S. Kelsey, Lock Haven.

Indiana—Hon. S. M. Jack, Indiana; Rev. G. T. Reynolds, Indiana.

California—G. M. Mitchell, Monessen; Hon. E. F. Acheson, Washington.

Slippery Rock—Hon. John M. Greer, Butler, Thomas Robison, Butler.

Edinboro—Hon. S. D. Ware, West Springfield, Rev. G. H. Stuntz, Edinboro.

Clarion—Hon. James T. Maffet, Clarion; S. F. Brush, Clarion.

ORGANIZING NEW BOARDS.

THE Act of April 23, 1863, requires that the School Boards shall organize "within ten days after the first Monday in June in each year." As it is important that the new Boards should meet and organize promptly according to law, the old Boards should fix a time for holding a meeting for the purpose, and give due notice to the new directors, who have been elected.

Upon meeting for the purpose of organization, directors should first elect a *temporary* President and Secretary, and proceed to ascertain who are members, by having read the election returns placed in the hands of the old Board by the proper election officers. Disputed points concerning claims to seats must be disposed of. Questions arising out of tie votes must be settled. And when it is ascertained who are members, the Board is ready to organize *permanently* by electing a president, a secretary and a treasurer. Those having a right to vote under the temporary organization are the directors holding over and the persons duly notified of their election. Those entitled to vote in effecting the permanent organization are the directors holding over and the persons found entitled to seats in the Board by their election. Among the items of business that should be attended to by the new Boards on the day of organization, are the following:

1. Appoint persons to fill vacancies in the Board of Directors, if such vacancies exist.

2. Receive the annual report and certificate from the old Board, whose duty it is to prepare these papers, attach the signatures of the officers of the new Board, and forward them to the proper County Superintendent for approval and transmission to the Department of Public Instruction. *This duty should not be neglected.*

3. See that any moneys in the hands of the old treasurer come promptly into the hands of the new officer.

4. Fix the time and place for holding the regular meeting of the Board.

5. Decide whether the Board will subscribe for *The School Journal* or not. The law permits and encourages all Boards of Directors to subscribe for one copy for each member at the expense of the district. No Board can well afford to be without it, not only for its practical value, but also for its suggestiveness to thoughtful men who feel a proper sense of the grave responsibilities that devolve upon them as School Directors. The law authorizing subscription (see Pennsylvania School Laws and Decisions, pages 238 and 239) and the decisions under it are very clear and definite, as follows:

CCL. That the *Pennsylvania School Journal* shall be recognized as the official organ of the Department of Common Schools of this Commonwealth, in which the current decisions made by the Superintendent of Common Schools shall be published free of charge, together with all official circulars, and such other letters of explanation and instruction as he may find it necessary or advisable to issue from time to time, including his annual report; and the Superintendent is hereby authorized to subscribe for one copy of said *School Journal*, to be sent to each Board of School Directors in the State, for public use, and charge the cost thereof to the contingent expenses of the Department of Common Schools.—Act May 8, 1855, Sec. 9, Pamphlet Laws, p. 511.

167. *The Journal* is the official organ of the Department of Public Instruction, and the decisions, advices, explanations, construction and information, with the instructions and forms published in the official department of it, are of equal authority and force as if contained in this digest.

168. The copy sent to the Secretary of each District at the cost of the State is to be laid before the Board at the next meeting after its receipt, and the file thus received is to be preserved by the Secretary and handed to his successor.

169. Each Board has the right to subscribe for one copy of *The Journal* for each member, at the cost of the district, as a means of information in relation to the duties of their offices, and the condition and operations of the system in other parts of the State.

ITEMS FROM REPORTS.

ARMSTRONG—Supt. Wolfe: I found the thirty-two schools visited during the month in good condition and doing good work. Generally speaking the work done in the rural schools this year has been much more satisfactory than last year. Many of the teachers whose schools are closed are attending Normal schools, academies, or select schools. The whole number of applicants for eighth-grade certificates was 89; of this number 59 passed—the remaining 30 receiving grades only. Owing to floods and bad roads many of the schools were not so well attended as usual.

BEAVER—Supt. Moore: The rural schools are closed and many of the teachers have gone to one or another of the summer schools or a State Normal school for further study in preparation for next year's work. Harmony and Baden townships have plans made for new buildings to be erected this summer.

BERKS—Supt. Rapp: Most of the county schools are closed. There was probably a greater scarcity of teachers in this county during the past year than ever before. A number of schools remained closed a considerable time before teachers with the requisite qualifications could be secured. Instead of the usual scramble and sharp competition among applicants for positions, the directors were obliged to do the scrambling in search for suitable teachers for their schools. This certainly was an unusual and peculiar condition of affairs.

BLAIR—Supt. Davis: All the township schools and most of the borough schools have closed what we consider a successful term. At several of the borough schools I attended the closing exercises. Great interest was manifested by both pupils and patrons. Graduation exercises appear to be popular with the people of our county.

CLINTON—Supt. McCloskey: The school board of Beech Creek borough has broken ground for a $7,000 school building, to be equipped with all the modern conveniences. Many of the rural schools have closed. Notwithstanding the extreme severity of the winter, the schools have made an excellent record in attendance.

CUMBERLAND—Supt. Green: The diploma examinations were held throughout the county on March 19. The county was districted for this purpose. The papers were prepared by the Co. Supt. and placed in the hands of the respective supervising committees. All the work was examined by myself, granting diplomas to those who passed a satisfactory examination in the common branches as outlined in the course of study. Ninety-six pupils took the examination. Most of the work showed neatness, clearness and thoroughness, which reflects much credit upon our teachers. Much of the work compares favorably with that of graded schools, and shows that our teachers are laboring earnestly to overcome the many obstacles that confront them in the doing of thorough work. Examinations were held in the Mechanicsburg and New Cumberland high schools.

FAYETTE—Supt. Carroll: Our schools are closing a very successful year's work. Fifty-two pupils completed the prescribed course of study and received their diplomas. Their work was very satisfactory. They are probably the strongest graduates which the rural schools have yet turned out. Many of the borough schools are also graduating large classes. The number of schools is increasing at a rapid rate. Many new houses will be built during the summer. Uniontown has just completed one of the best eight-room brick houses in the county. New houses will be built in South Union, Georges, Franklin, German and possibly some other districts. Fairchance borough has let the contract for an eight-room brick house, and will have it ready for use in the fall. Teachers' wages will go still higher in many districts. The outlook in general is good.

FULTON—Supt. Barton: The McConnelsburg high school graduated a class of ten on the evening of May 12. Ninety per cent. of our teachers will attend school this summer. Our term examinations were held throughout the county, April 9th; twenty-nine completed the course and were duly graduated from the common schools. The opposition to the township high school established in Wells has dwindled to a minimum. Two good houses were destroyed by fire, but a third house was erected and the school is doing most excellent work.

GREENE—Supt. Stewart: The contract has been let for an eight-room building in Rice's Landing. This borough was organized last year and we are glad to note the great interest manifested in their schools.

HUNTINGDON—Supt. Dell: A local institute was held in Smithfield, April 2d. Very interesting commencement exercises were held at Orbisonia, Alexandria, and Spruce Creek. At each place, besides the usual features of the programme, we had an address by a speaker from abroad. Principals Palmer, Hardman and Wright respectively deserve special mention for the excellent manner in which their classes acquitted themselves. The number graduating at

each place in the order named above, is four, seven and five respectively. Forty-seven candidates for the common school diploma have been examined. Of this number, 39 were successful. Saltillo will have a high school next year. The directors are manifesting great interest in the project.

LACKAWANNA—Supt. Taylor: A meeting of Principals, at which a majority of districts was represented, was held April 2nd. In discussing the County Institute, the principals were unanimously in favor of holding the next institute at the same time and place as last year—in October at Scranton. A majority favored an undivided institute, with the best speakers that can be secured, excluding local talent. They also wish to devote two evenings of the week to lectures or entertainments. The Greenwood school-house, partially destroyed by fire in December, has been rebuilt, and the school is now in operation. The Blakesley school board has adopted plans for an eight-room high school building, and the work of erection will begin immediately after the close of the schools. The cost will be $18,000. This building has been needed for several years, but the funds were lacking. The plans provide for a modern building, well lighted and ventilated, and heated by steam. The annual examination of pupils in the rural schools was held April 18th. The examination was taken by 64 pupils, including 33 in the 8th year work of finishing the common branches. Of these 24 passed satisfactorily and received certificates admitting them to any high school under my supervision. This is a poor showing for 74 rural schools with an enrollment of nearly 1,000 pupils. At least fifty should finish common branches in these schools every year. The great obstacle in the way is the custom of keeping the older pupils out of school during September and October for work on the farms, and withdraw them from school in April for the same reason. This loss of from two to three months of the school term each year makes it impossible for these older pupils to finish the work and pass the examinations in common branches. In this way about one-fourth of the money spent in these schools is wasted; for more finished work could be done in a six-months term *with all the pupils in regular attendance* than is now accomplished in eight months. The present custom of keeping the older pupils out of school two or three months of the term makes it impossible for teachers to do thorough and systematic work in advanced grades. These pupils fall behind their classes and lose interest in their studies, and the enthusiasm and ambition of the teachers to do good work is, in many cases, lost.

LYCOMING—Supt. Milnor: Of the 145 applicants for the common school diplomas, 104 were passed. The results of the examination reflects credit upon both teachers and pupils. Excellent commencement exercises were held at the Montoursville and Ralston high schools. The Ralston school has fulfilled the requirements of a township high school and will apply for its appropriation. The monthly meeting of the Teachers' Exchange has devoted considerable time to language teaching by reviewing and discussing Hinsdale's "Language Arts" and White's "Art of Teaching." Excellent results of this work have been noted in the schools. Montgomery borough will erect a new eight-room building at a cost of $18,000 and the high school course will be extended two years.

NORTHUMERLAND—Supt. Apple: An unusual amount of sickness among the children has affected the attendance very seriously in many districts. Fire damaged the Reedsville school house to the amount of $700. The school had been closed for only a short time; the necessary repairing will be done during the summer.

PIKE—Supt. Westbrook: Examinations for common school diplomas were held April 9. Of the 28 pupils examined, eleven were passed. This is the first of these examinations held in the county and they have already aroused interest among both teachers and pupils. Most of the schools in outlying districts have closed.

SNYDER — Supt. Walborn: The only schools open in the entire county are those of Selins Grove. With a few exceptions there has been commendable progress. Middleburg borough strengthened its course of study at the beginning of last term and a class of four was graduated. Since the 4th of April I have been devoting my time to teaching in the Selins Grove University in the forenoon, and at the Freeburg Academy in the afternoon. In these two schools there are about 150 teachers enrolled. We give them instruction in theory and practice and also review work in the common branches. The remainder of the students' time is given to the higher branches. This plan, we hope, will soon give us a stronger corps of teachers than we are able to get by conducting a free Normal of only four or five weeks duration once a year.

SOMERSET—Supt. Seibert: The district examinations were held April 9th, in the different townships, about 150 applicants took the examination, one hundred of them being successful. To these diplomas have been issued. More interest is taken in these examinations than formerly and a larger class has been graduated than ever before. More interest by teachers and directors will make these classes still larger. The new school district of Boswell borough has been formed. A number of new school houses are already under contract for next year.

UNION—Supt. Stapleton: County schools have generally closed. There are few schools that have not shown the good work done by the teacher during the term. In Buffalo and Kelly districts graduating exer-

cises were held for those who completed the common school course of study. In some districts great interest is taken in maintaining a high standard and in completing the course of study. Many progressive teachers have gone to one school or another this spring to complete higher courses of study.

WASHINGTON—Supt. Hall: The schools are closing. The work as reported has been well done. Some of the Secretaries report more interest in the schools this year than usual. There is nothing like a working School Board to keep teachers busy and to the front in good methods. Schools always are active and alive when the Directors lead. We are blessed with many industrious Directors for the promotion of our schools and pray that we may be favored with many more such men in the future. April 2nd was examination day in the schools of the county. Of the 185 candidates, 124 received diplomas. The candidates as a general thing, were stronger than usual, giving better results and consequently greater satisfaction. Bentleyville for the first time closed with commencement exercises, much to the delight of the young people concerned. Venetia also took a step forward, and pleased the people with appropriate commencement exercises. We have been highly gratified by the work in general.

WARREN—Supt. Gunning: The month has for the greater part been occupied with the preparations for the teachers' examinations and the annual county uniform examinations. The latter took place April 22. Nearly 600 pupils were examined. Of this number about 25 per cent. passed the required standard and received diplomas.

WAYNE—Supt. Hower: The examinations for common school diplomas were held April 2. Fifty-five passed, many doing very creditable work. A number also passed in algebra and civil government. A number of schools were visited the second time, and excellent progress was noted in all but a few. In the two-room Tracyville school, Texas township, with an enrollment of 56, I found but one child absent at my two visitations—the percentage of attendance being 99 for some months. It is needless to say that excellent work is being done here. Many of our teachers are attending school. At a recent meeting of the Clinton Board it was decided to open a Township high school next year. This will make the seventh for Wayne.

BEAVER FALLS—Supt. Maguire: Much illness continues to interrupt good attendance. Just now measles are the most disturbing; sometimes half the pupils in a room are ill at one time. Our high school has two literary societies—the Macbethian and the Athenian. They held a contest April 13th, the events being a debate, an oration, an essay and a recitation. The Macbethian won 23 points out of 28. The affair was well attended, about $100 being taken in at the door.

CARLISLE—Supt. Wagner: Special exercises were held in the schools on Arbor Day, April 22. Unusual interest was manifested at the high school, where an extended musical and literary programme was rendered. Mrs. E. W. Biddle gave an excellent address on "Forestry," and each class planted a tree on the school lawn.

LANSFORD—Supt. Killian: I taught a part of the month to supply a vacancy in one of the grammar schools. Mr. C. A. Neumiller, a graduate of the E. S. Normal school has been elected to fill the position. Examinations for promotion are in process. The promotions will be based upon the teachers' recommendations and examinations.

MAHANOY TWP. (*Schuylkill Co.*)—Supt. Guinan: During the month I collected written work from all the first, second, third and fourth year pupils. The work showed the progress of each school in writing, spelling and number. The papers were submitted to the school board and to the teachers at the monthly meeting. Some seven-year-old work was remarkably good and showed what progress can be made in the second year. The different results on the various papers suggested valuable hints to primary teachers. Arbor day was observed at the high school by planting trees and shrubs.

PHŒNIXVILLE—Supt. Leister: Arbor Day was celebrated in our high school. A short address by Mr. J. O. K. Robarts was highly appreciated by those who had the privilege of hearing it. An excellent address of over an hour's duration on "The Destruction of Forests and Birds," was delivered by I. C. Williams, Esq., of the State Department of Forestry.

SOUTH SHARON—Supt. Canon: At the closing exercises of our schools on May 6th, Dr. Keller made the address of the evening to an audience of about 500 people; his subject was "Things for Which the Public School Stands."

TAYLOR—Supt. Lloyd: The Board is now enforcing the compulsory school law. The borough constable is hired as the truant officer and he is doing excellent work. Our attendance has improved very much in comparison with what it was during some of the previous months. The school board is to be commended for the firm stand taken in this matter.

WILLIAMSPORT—Supt. Lose: Including the money raised for an Art Exhibit, April 6–9, our art committee has expended for pictures this year $380. The Principal of high school used the Art Exhibit as the subject of several interesting talks on the great pictures of the world. Other teachers also brought their schools to the Exhibit and instructed the pupils on art subjects. Mr. Ulmer, of the high school, gave a free illustrated lecture to teachers and pupils in the high school room, on April 15th, on "Literary and Historic New England."

GOOD NIGHT.

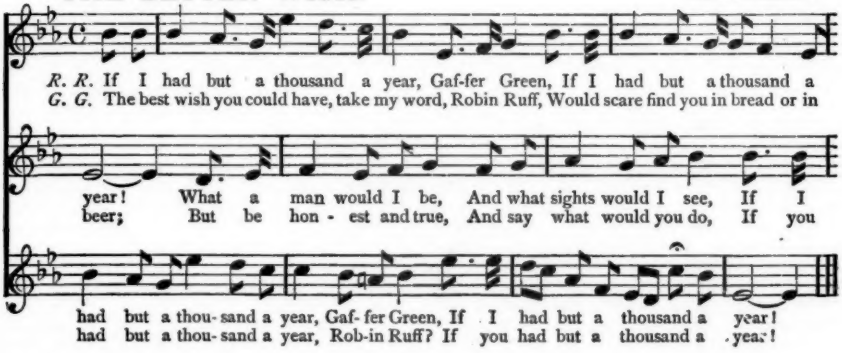
VOLKSLIED.

Moderato.

1. How soft the hap - py even - ing's close, 'Tis the hour for sweet repose, Good
2. These tran - quil hours of so - cial mirth, Form the dear - est ties of earth: Good
3. Oh, how each gen - tle thought is stirred, As we breathe the parting word: Good
night! The sum - mer winds have sunk to rest, The moon se - rene - ly bright, Sheds
night! And while each hand is kind - ly pressed, Oh, may our pray'rs to heaven, With
night! Could we but ev - er feel as now, Our hearts with love up - raised, And
dim.
rit.
down her calm and gen - tle ray, Soft - ly now she seems to say, Good night!
hum - ble fer - vor be ad - dressed, For its bless - ings on our rest: Good night!
while our fond af - fec - tions flow, Hear in mur - murs soft and low—Good night!

THE BETTER WISH.

HENRY RUSSELL.


R. R. If I had but a thousand a year, Gaf-fer Green, If I had but a thousand a
G. G. The best wish you could have, take my word, Robin Ruff, Would scare find you in bread or in
year! What a man would I be, And what sights would I see, If I
beer; But be hon - est and true, And say what would you do, If you
had but a thou- sand a year, Gaf- fer Green, If I had but a thousand a year!
had but a thou- sand a year, Rob-in Ruff? If you had but a thousand a year!

R. I would do, I scarcely know what, Gaffer Green,
I would go, faith! I hardly know where,
I would scatter the chink
And leave others to think,
If I had but a thousand a year, Gaffer Green!
If I had but a thousand a year!

G. But when you are aged and grey, Robin Ruff,
And the day of your death it draws near,
Say, what with your pains
Would you do with your gains,
If you then had a thousand a year, Robin Ruff?
If you then had a thousand a year?

R. I scarcely can tell what you mean, Gaffer Green,
For your questions are always so queer,
But as other folks die,
I suppose so must I— [Ruff?

G. What! and give up your thousand a year, Robin
And give up your thousand a year?

There's a place that is better than this, Robin Ruff,
And I hope in my heart you'll go there,
Where the poor man's as great,

R. What! though he hath no estate?

G. Yes, as if he'd a thousand a year, Robin Ruff,

G. & R. Yes, as if he'd a thousand a year.